

# OHIO UNIVERSITY BULLETIN

**GRADUATE COLLEGE**

**1966-1967**





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OHIO UNIVERSITY • ATHENS

The fees, programs, and requirements contained in this bulletin are effective with the 1966 Summer Session. They are necessarily subject to change without notice at the discretion of the University.

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Cutler Hall

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WALTER W. WRIGHT, S.B., B.S.L.S., Director of Libraries, Assistant Professor of  
Library Science

# 1966-1967 CALENDAR

## THE 1966 SUMMER SESSION

First term June 13 to July 19

Second term July 21 to August 26

For complete announcements see the Summer Session Bulletin.

## FIRST SEMESTER 1966-1967

### 1966

- |                |   |
|----------------|---|
| Sept. 13 Tues. | Registration for students who did not pre-register.                               |
| Sept. 14 Wed.  | Classes begin   |
| Sept. 27 Tues. | Last day to apply for admission to candidacy for a master's degree on January 28. |
|                | Last day to register for the semester.  |
|                | Last day to file application with payment of fee for graduation on January 28.    |
|                | Last day to add a course by change order.   |
| Oct. 1 Sat.    | Last day to withdraw from a course.   |
| Oct. 8 Sat.    | Last day for partial refund of fees to students who withdraw.                     |
| Oct. 22 Sat.   | Last day to remove incomplete grades incurred during last session in residence.   |
| Nov. 23 Wed.   | Thanksgiving recess begins at noon.   |
| Nov. 28 Mon.   | Classes resume with first scheduled class.  |
| Nov. 30 Wed.   | Advising for second semester; classes dismissed.                                  |
| Dec. 17 Sat.   | Christmas recess begins after last class.   |

### 1967

- |                |   |
|----------------|---|
| Jan. 4 Wed.    | Classes resume with first scheduled class.  |
| Jan. 19 Thurs. | Last day of classes   |
|                | Last day for degree candidates to take oral examination on thesis or dissertation.    |
| Jan. 20 Fri.   | Examinations begin.   |
| Jan. 23 Mon.   | Theses and dissertations due in library and abstracts due in Graduate College office. |
| Jan. 25 Wed.   | Candidates' grades due in registrar's office by 4:00 p.m.                             |
| Jan. 26 Thurs. | Examinations end.   |
| Jan. 28 Sat.   | Semester closes; commencement.  |



**SECOND SEMESTER 1966-1967**

Jan. 30 Mon.	Semester opens.
Feb. 1 Wed.	Registration for students who did not pre-register.
Feb. 2 Thurs	Classes begin.
Feb. 15 Wed.	Last day to apply for admission to candidacy for a master's degree on June 4. Last day to register for the semester. Last day to file application with payment of fee for graduation on June 4. Last day to add a course by change order.
Feb. 18 Sat.	Last day to withdraw from a course.
Feb. 25 Sat.	Last day for partial refund of registration fees to students who withdraw.
Mar. 11 Sat.	Last day to remove incomplete grades incurred during last semester in residence.
Mar. 25 Sat.	Spring recess begins after last class.
Apr. 3 Mon.	Classes resume with first scheduled class.
May 23 Tues.	Last day of classes. Last day for degree candidates to take oral examination on thesis or dissertation.
May 24 Wed.	Reading and review day; advising for September.
May 25 Thurs.	Examinations begin.
May 30 Tues.	Memorial Day holiday.
May 31 Wed.	Theses and dissertations due in library and abstracts due in Graduate College office. Candidates' grades due in registrar's office by 2:00 p.m.
June 1 Thurs.	Examinations end.
June 4 Sun.	Commencement.

# GENERAL INFORMATION

## PROFILE OF OHIO UNIVERSITY

Ohio University, chartered in 1804 by the First General Assembly of Ohio, is a symbol of America's early realization of the importance of education. The Ordinance of 1787 which created the Northwest Territory provided: "Schools and the means of education shall forever be encouraged."

In 162 years, Ohio University has grown from a single building to 76 principal buildings covering 745 acres. The main campus, with an enrollment of 14,000 in seven colleges and six schools, is located in Athens, a city of 12,000 in scenic south-eastern Ohio. In addition, more than 5000 students are enrolled in branch campuses at Belmont County, Chillicothe, Ironton, Lancaster, Portsmouth, Zanesville, and the educational center at Lockbourne Air Force Base.

Creativity, academic excellence, and moral and social development are of primary concern at Ohio University. Bold programs such as the Honors College, the Internship, and four-year curricula leading to both bachelor's and master's degrees provide Ohio's students with a challenge to achieve excellence.

Committed to excellence and academic growth, Ohio University has begun an extensive building program to meet the rapidly increasing needs of students and faculty. The program includes a 25 million dollar science-engineering campus under construction, a new seven story, six and one-half million dollar library, a seven million dollar, 14,000 seat convocation center, a music building and an educational radio-television center. Construction has begun on a sixteen million dollar, four residence hall and one dining hall complex to supplement the 27 residence halls already in existence.

A wide variety of programs is offered to the undergraduate student. Degree colleges include Arts and Sciences, Business Administration, Engineering and Technology, Education, Fine Arts and the University College. The Graduate College offers master's degree work in 38 areas of study and 18 doctoral programs.

The campus is located 76 miles southeast of Columbus, Ohio, the state capital, and 40 miles west of Parkersburg, West Virginia, and is easily accessible on U. S. Routes 33 and 50. Athens is on the main line of the Baltimore and Ohio Railroad, between Washington and Cincinnati. A

University-owned airport, with a 3200 foot paved, lighted runway, is located one mile east of the campus on U. S. Route 50 east and is open to the public.

The University's academic calendar consists of two eighteen-week semesters and a summer session of two five and one-half week terms. Many students find it advantageous to register for all sessions, which provides the opportunity for unbroken year-round study and research. Graduate assistants have the added opportunity of study with waiver of the general registration fee during the summer sessions immediately preceding and following the period of their regular appointment. Some graduate appointments and scholarships are available in the summer session as well as in the regular academic year.

The University is accredited by the North Central Association of Colleges and Secondary Schools, and by the recognized professional accrediting associations identified with its major academic divisions. The University also holds membership in the leading state and national educational and professional associations in major areas of interest.

## FACILITIES AND SERVICES

Graduate students have full use of all University facilities and may avail themselves of all its services.

### UNIVERSITY LIBRARIES

The Edwin Watts Chubb Library houses the main collection of 400,000 volumes, including periodical sets and documents. The collection is shelved in the stacks to which all students have access. About 1800 periodicals are received regularly.

There are extensive resources of microfilm, microcard, and microprint. The library has a reader-printer, a microfile camera, and Xerox copiers. Fully staffed departmental libraries are maintained for the College of Education and the College of Fine Arts, and specialized collections on a less formal basis are administered in connection with the College of Business Administration, the School of Music, and the Departments of Botany, Chemistry, Geology, Physics, and Zoology.

Special collections in the Chubb Library include the valuable J. W. Morgan Collection of historical books in chemistry and other physical sciences, the University's rare book collections, and the University Archives.

## STUDENT HEALTH SERVICE

The Student Health Service facilities, located in the Hudson Health Center, include an out-patient department and a 90-bed hospital section and ancillary services, which include x-ray, clinical laboratory, physiotherapy and electrocardiography.

The Health Service maintains a continuous health record on each student, beginning with the report of medical history and physical examination by the family physician which is required for admission to the University.

A tuberculin skin test is required of each new student and is given at the Center at the time of entrance to the University. All positive skin reactors receive a chest x-ray annually. Negative reactors are urged to be retested each year. This program provides a means of early detection of tuberculosis for the individual student and protection for the academic community.

The Director of the Health Service and the Director of Environmental Health jointly have the responsibility and the authority to exercise precautions to prevent the spread of communicable diseases and to maintain proper standards of health and sanitation on the campus.

The Health Service staff includes seven full-time physicians, a University psychiatrist, 25 registered nurses, a Director of Environmental Health, and a University Sanitarian, as well as registered laboratory and x-ray personnel.

**MAJOR MEDICAL INSURANCE PLAN.** A major medical insurance plan, specifically designed to supplement the care provided by the Student Health Service, is mandatory for every full-time student at an annual premium of \$16 unless the student submits evidence that he is covered by a comparable private insurance plan.

The plan provides protection against major medical and surgical expenses and is effective for one year, not only while in Athens, but at all times wherever the student may be. In addition to the medical and surgical benefits payable under the terms of the group plan contract, an accidental death payment is a provision of the policy.

**PERSONAL ADJUSTMENT COUNSELING.** The Center for Psychological Services maintains a staff of professional counselors to assist students whose effectiveness and adjustment are hampered by personal concerns.

Psychological tests are often administered to such persons for the purpose of adding to the counselor's understanding of the individual and his problems. The services are completely confidential.

## PLACEMENT SERVICES

The University Placement Service has two divisions. The *Educational Placement Bureau*, located in McCracken Hall, affords students, former students, and graduates of the University assistance in securing teaching and administrative positions in public schools and in Education departments of colleges and universities.

The *University Placement Service*, located in Berry Hall, offers assistance to those wishing to secure positions in business and industry and in colleges and universities (except Education departments).

A charge of \$2 a year is made for each year in which assistance is requested.

## RECREATIONAL AND CULTURAL ACTIVITIES

### THE JOHN CALHOUN BAKER UNIVERSITY CENTER

The Baker Center provides facilities for the cultural, social and recreational benefit of the students. The building contains three lounges, a large ballroom, dining rooms, cafeteria, snack bar, library and record listening room, television, conference rooms, and recreational areas for bowling, billiards, table tennis and cards.

### RECREATION

Recreational facilities available to students are the natatorium, the indoor ice skating rink, a golf course adjacent to the campus, and tennis and handball courts.

Feature motion pictures are shown three nights a week in Memorial Auditorium.

Four of the state's most scenic areas are located near Athens, and are used as week-end retreats by students and faculty members. Included are Dow Lake, a new lake located east of Athens in a 2000-acre state park, used by the University for educational and research projects; Lake Hope, located in the heart of Zaleski State Forest; the caves and gorges of the Hocking Park area; and Burr Oak Lake, Glouster.

### CULTURAL PROJECTS

The University annually invites guest artists and other distinguished persons to spend time on the campus lecturing, appearing in recitals, and talking informally with interested students.

The University sponsors a concert series, bringing to the campus internationally famous instrumentalists and vocalists, symphony orchestras, opera and ballet companies and chamber music groups.

The Edwin and Ruth Kennedy Lecture

Series has brought many distinguished persons to the campus including Adolph A. Berle, Charles Malik, John Ciardi, William O. Douglas, Arnold Toynbee, Margaret Mead, and Charles Frankel.

The College of Fine Arts plans many events of a cultural nature each year. In addition to the numerous concerts and plays which are presented by the students and faculties of the School of Dramatic Art and Speech and the School of Music, the two schools cooperate in campus-wide productions of outstanding musicals.

For over two decades the School of Painting and Allied Arts has sponsored the Ohio Valley Oil and Water Color Show, a competition open to artists of Ohio, Illinois, Indiana, Kentucky, West Virginia and Pennsylvania. The University is building a permanent collection of paintings, many of which are purchased from this show. A program of art exhibitions is conducted throughout the year.

The Ohio Valley Summer Theatre, sponsored by the School of Dramatic Art and Speech, produces annually a series of six outstanding plays.

#### HONOR SOCIETIES

Ohio University has chapters of Phi Kappa Phi and the Society of Sigma Xi. The former recognizes scholarly accomplishments of graduate students in all fields of study. The latter honors those in the sciences who have given evidence of outstanding ability in scholarship and research.

### LIVING ARRANGEMENTS

Application for housing is made to the Director of Housing, Ohio University, Athens, Ohio 45701.

Rooms in private residences are listed with the Director of Housing and have been inspected and approved by the University. Graduate students are not restricted to the homes on the approved list, but may reside in apartments and residences not approved for undergraduate students.

A student renting a room in a private home is expected to remain in the home for one semester unless satisfactory arrangements are made with the householder.

Students living in private homes may arrange to eat in Baker Center cafeteria, but must continue such arrangements throughout the semester. Such arrangements for board are made in the office of the Director of Housing. The cost of board in University halls is \$234 a semester for 21 meals a week. Meals are served through-

out the academic year except during the Thanksgiving, Christmas and Spring recesses. Board rates are subject to revision, in accordance with prevailing economic conditions.

The University owns and operates several facilities to meet the housing needs of married students. All applicants must be institutional full-time students (graduate assistants at least eight hours). An assignment to University married student facilities includes the obligation and responsibility to meet the terms and conditions of occupancy as stipulated in the contract agreement.

Married student facilities include fifty-two permanent brick units on Wolfe Street adjacent to the University Golf Course, and the University Trailer Park on East State Street adjacent to the University Airport, which accommodates 45 privately-owned trailers.

The apartments are complete with basic furnishings including range and refrigerator, a hide-a-bed, a six-drawer chest, kitchen table with four straight chairs, combination desk-dresser, double bed, two lounge chairs, and a wall mirror. Laundry rooms with coin-operated automatic machines are available to residents. Rentals per month, including utilities, are \$70 for the studio apartment, \$85 for the one bedroom, \$95 for the bedroom and nursery, and \$110 for the bi-floor unit.

The University Trailer Park space rental is \$18 per month, which includes water and sewage. Toilet, bathing and coin-operated laundry facilities are provided. Electricity costs are not covered by the rental fee. Bus service to the campus during regularly scheduled class hours is available at no cost.

Assignment to apartments or trailer park is made when available on the basis of the date of receipt of application with an accompanying security deposit of \$25. The deposit is refunded after the apartment is vacated, if certain conditions are met.

Since present University facilities for married students are not sufficient to meet the demand, many married students live in privately operated apartments and houses in Athens. Rents vary with size and accommodations. The Lakeview Manor Apartments, the Athens Apartments, the Concord Place Apartments and the Carriage Hill Apartments are projects that accommodate married students, faculty and community residents.

For further information concerning married student housing write to the Director of Housing, Ohio University, Athens, Ohio.

# ADMISSION REQUIREMENTS AND STUDY REGULATIONS

## ADMISSION

A student holding a bachelor's degree from an accredited college or university who has attained an undergraduate scholastic point-hour ratio of 2.5 or better on hours attempted, and preferably a 3.0 (B) in the area of the proposed major, will be considered for admission with *regular status* in the Graduate College. (Point-hour ratio is computed on a 4-point system: A—4, B—3, C—2, D—1.) Further supporting evidence of the student's ability in the form of the Graduate Record Examination, Admission Test for Graduate Study in Business, Miller Analogies Test, or other college ability tests and letters of recommendation may also be requested.\*

A student holding a bachelor's degree from an unaccredited institution or a person whose undergraduate preparation is deficient will be required to supplement his undergraduate record with a satisfactory score on an acceptable standard college ability test.\*

A student with a master's degree will be considered for admission to graduate study for the doctorate, with the amount of graduate credit accepted by transfer subject to review and recommendation by the graduate committee of the department concerned.

All correspondence pertaining to the admission of a student to the Graduate College should be addressed to the Dean of the Graduate College, Ohio University, Athens, Ohio.

Application for admission consists of the presentation of application blanks filled in by the applicant, an official transcript

\*Those who have taken either of these tests are urged to have their scores reported to the Graduate College, Ohio University.

Further information about the Graduate Record Examination (given in January, April, July, and November) or the Admission Test for Graduate Study in Business (given in November, February, April, and July) may be obtained by writing to the Educational Testing Service, Princeton, New Jersey 08540. Applicants in the West Coast region should write to the E.T.S., 1947 Center St., Berkeley, Calif. 94704.

Information on the Miller Analogies Test may be obtained from The Psychological Corporation, 304 E. 46th St., New York, N.Y. 10017.

Students on the Ohio University campus may obtain test application forms from the Graduate College or the Testing Center.

from *each* school attended, (sent directly to the Graduate College) a vaccination blank certified by a physician, and a medical history blank filled in by the applicant and completed by a physician.

*Applications for admission together with the \$5 application fee, (a check or money order payable to Ohio University) and supporting credentials, including official transcripts for all academic work, should be received at least three weeks in advance of registration for the semester or the summer term in which the student wishes to begin graduate study.*

## STUDY REGULATIONS

### ASSIGNMENT TO ADVISERS.

A student who qualifies for admission to the Graduate College confers with the departmental chairman or the chairman of the graduate committee who has supervision over the subject matter in the area of his major interest. The chairman will assign a faculty adviser in the major field to counsel with the graduate student and prepare the outline of graduate study. A copy of the outline is returned early in the initial term of study to the Graduate College office where it is filed and becomes a part of the record of the graduate student.

### STANDARDS OF WORK

The minimum standard is a grade point average of 3.0 (B) on all graduate work attempted. Of all the hours counted toward the satisfaction of degree requirements, no more than 20 per cent can be below B. No grades below C can be used to satisfy degree requirements. A grade of S (satisfactory) or U (unsatisfactory) will be recorded for thesis, dissertation, and seminar. The designation of "pending" on a problem, thesis, research, or seminar course must, by arrangement with the instructor, be removed within one year after the official closing of the session in which the course was taken. An "incomplete" in all other courses must be removed within six weeks after the opening of the next session in

which the student is in residence. *S* or *U* for thesis or dissertation is not indicated until the completion of the thesis or dissertation oral examination.

### COURSES FOR GRADUATE STUDY

Credit toward a graduate degree is given for the completion of courses designed for graduate students (numbered 400-599) and courses designed for advanced undergraduates and graduates (numbered 300-399), provided the courses are included in the student's approved program of study.

### APPLICATION FOR GRADUATION

The student must apply for graduation through the office of the Registrar at the time indicated in the University Calendar. If the requirements for the degree are not fulfilled within the designated semester the student must reapply for graduation.

The university graduation exercises are conducted to honor those who have earned their degrees. The graduate is expected to attend the commencement exercises unless excused by the Dean of the Graduate College. Academic costumes with the appropriate hoods are worn by the candidates as a part of the ceremony. The candidate will make his own arrangements for rental of the appropriate academic costume through the campus agency provided for this service. The doctoral hood is bestowed by the University and need not be rented.

## FEES

### REGISTRATION FEES

Payment of all assessed fees at the times designated is prerequisite to official enrollment. Checks and money orders should be drawn in favor of Ohio University in the exact amount of the fees. Postdated checks are not acceptable. Checks not paid on presentation to the bank will automatically cancel any receipts given and result in assessment of penalties.

At a slight additional expense, the payment of the basic charges may be spread over the four month period, August to November, for the first semester, and February to May for the second semester. Election of this payment plan must be made in advance. Students who wish to elect the plan should request the pamphlet on fee equalization.

Ohio University reserves the right to make, without prior notice, any fee adjustments that may become necessary.

	Resident of Ohio	Non- Resident
<b>Matriculation Fee (nonreturnable)</b>		
Required of every student on first enrollment in the University -----	\$ 10.00	\$ 10.00
<b>The Semester:</b>		
Comprehensive fee for load of 12 to 16 hours, inclusive	225.00	425.00
Includes the general registration fee, the student activity fee; student service fees such as health, library, and testing; and course and laboratory fees. Excludes fees for private instruction, as in music, which are listed in the course descriptions.		
Fee for each hour load of 7 to 11 hours, inclusive	20.00	38.00
Fee for each hour for load of 1 to 6 hours, inclusive	18.00	35.00
The fee for 1 to 6 hours does not carry with it the privilege of a student activity card or the use of the Health Service.		
Auditors pay fees in full as above.		
<b>The Summer Session:</b>		
Fees are proportionate amounts of the semester fees. See Summer Session Bulletin for details.		
<b>Extension Class:</b>		
Registration fee, each semester hour -----	15.00	30.00
Fee is increased if class is organized with an enrollment below the required quota.		

### REFUND OF FEES

Voluntary and official withdrawal from the University entitles the student to a refund of 80 per cent of the comprehensive fee if he withdraws within the first or second week of a semester, and 50 per cent if he withdraws within the third or fourth week. A week is interpreted to mean a calendar week and ends at noon on Saturday. Refunds are issued thirty days after the date of withdrawal.

If a student withdraws from the University before he pays his registration fees or before he completes the payment of his registration fees, he is considered indebted to the University for the amount determined according to the refund regulations.

## MISCELLANEOUS FEES

Admission Application filing fee ----	\$ 5.00
Change of course -----	2.00
Duplicate official forms, fee receipts, grade report, etc. -----	1.00
Examination for advanced standing, each semester hour -----	5.00
Graduation—	
Application for degree -----	15.00
Re-application -----	5.00
Penalty for late application -----	5.00
Diploma mailing fee for those excused from commencement -----	2.00
Late registration or late payment of fees—\$3.00 Minimum, \$10.00 Maximum	
Microfilming fee, required of Ph.D. candidates -----	25.00
Thesis and Dissertation Binding, Each copy -----	3.75
Transcript of record, after first transcript request -----	1.00
Group requests of five to ten copies, \$5.00; up to twenty copies, \$10.00	

## CLASSIFICATION OF STUDENTS

## DEGREE

1. Those students approved by the major department and the Dean of the Graduate College for unqualified admission to graduate study are granted *regular status*.

2. Those students who have some deficiency in entrance requirements may be approved by a major department and the Dean of the Graduate College for admission with *special status*. Students in this category may achieve regular status after the satisfactory completion of a prescribed program of study to remove deficiencies.

## NON-DEGREE

1. A graduate student who is attending a graduate school in another university may be admitted as a *transient* student by submitting an application and presenting an official statement of good standing from the dean of the graduate school in which he is enrolled. The student must request

permission to register as a transient student each semester prior to registering at Ohio University.

2. A student who wishes to receive graduate credit for a *workshop or institute* must make application for admission to the Graduate College for the workshop or institute only. Approval for such admission does not constitute regular admission to the Graduate College. The student must request permission to register for each subsequent workshop or institute he wishes to attend.

3. A student who wishes to take a graduate course with no intention of qualifying for a graduate degree must apply for admission to the Graduate College as a *non-degree* student. The student must request permission to register for each subsequent course as a non-degree student.

## SENIORS AND GRADUATE STUDY

A student who is within 9 hours of completing all requirements for the bachelor's degree at Ohio University may take courses applying toward the master's degree, provided he otherwise meets the requirements of admission and secures the written recommendation of the dean of his college, the chairman of his major department, and the approval of the Dean of the Graduate College. This privilege may also be extended to well-qualified seniors of other colleges who have 9 or fewer semester hours to complete for their bachelor's degree. Request for the above privilege must be made in advance of registration through the Graduate College office.

## EARLY ADMISSION TO THE GRADUATE COLLEGE

A superior student with senior standing may, with the written endorsement of the chairman of his major department and the approval of the Dean of the Graduate College, be enrolled in graduate courses for graduate credit. Under unusual circumstances non-senior students may be considered for this program. The courses may be used to satisfy both undergraduate and master's degree requirements.

# FINANCIAL AIDS

## GRADUATE ASSISTANTSHIPS AND FELLOWSHIPS

A number of graduate assistantships and fellowships are available in the Graduate College of Ohio University. Persons receiving these appointments are selected on a basis of merit from students who have received the baccalaureate degree from approved institutions and who wish to pursue work leading to the graduate degree.

Graduate assistantships provide a stipend of \$2,200 to \$2,400 for the academic year of two semesters and waiver of all fees, resident and non-resident, with the exception of a \$40 incidental fee. The graduate assistant is required to give approximately 18 hours of service weekly (six to eight contact hours in laboratory or lecture) to the University, and is permitted to carry 8 to 12 hours of graduate work.

The general registration fee will also be waived during the summer sessions directly preceding and following the period of a graduate assistant's appointment.

A graduate assistant continuing study for a second year is eligible for consideration for reappointment to the assistantship. The assistant who has completed two semesters of service with an exceptionally good record may, on the recommendation of his department, be reappointed for a second year at an increased stipend with waiver of the fee as noted above. *Reapplication must be made annually.*

Graduate assistantships are usually available to qualified students in the following fields: accounting, art, bacteriology, botany, business administration, chemistry, dramatic art, economics, education, engineering, (including chemical, electrical, mechanical and civil), English, finance, fine arts, geology, government, history, home economics, human relations, industrial arts, journalism, linguistics, management, mathematics, modern languages, music, philosophy, photography, physical education, physics, psychology, public address, radio-television, sociology, speech pathology and audiology, and zoology.

A number of teaching fellowships in chemistry, education, electrical engineering, English, fine arts, physics, psychology, pub-

lic address, radio-television and speech pathology and audiology, leading to the doctorate, are awarded to persons in advanced graduate study who have completed the master's degree or its equivalent and who have some teaching experience. The stipends, based upon both experience and teaching responsibility, range from \$2400 to \$4200 for two semesters of service, with the same provisions for waiver of fees as the graduate assistantships.

Research fellowships are established on the basis of grants-in-aid to the University for the conduct of research. Appointees to these fellowships must show exceptional aptitude for research. Their obligation involves the promotion of the research program of the department through which the grant is made. Fellows have no instructional service to perform and may normally carry 8 to 12 semester hours of work toward the completion of their graduate program. In general, the stipend and waiver of fees will be the same as those of an assistantship.

## APPOINTMENTS IN PERSONNEL WORK

Residence hall assistantships are open annually. Appointments are made on the recommendation of the Personnel Deans. Stipend and other terms are similar to those of other graduate assistants.

Graduate appointments are also available to married men as Resident Directors in the residence halls for men. The compensation for this service is a furnished apartment and board for the Resident Director and his family, and a stipend plus the waiver of fees as indicated for the graduate assistant. The Resident Director will supervise the functions of the residence hall and coordinate the responsibilities of graduate assistants assigned to work with him. He is normally permitted 9 hours of course work per semester.

Applications for all graduate appointments should be filed with the Dean of the Graduate College by March 1. Application blanks may be obtained from the office of the Graduate College. Appointments are made about April 1.



## SCHOLARSHIPS

University scholarships are available to incoming graduate students who have maintained a 3.0 (B) undergraduate average, and to graduate students who have maintained at least a 3.2 graduate average. These require full-time study and pay the general registration (resident or non-resident) fee. Information may be obtained by addressing the Graduate College, Ohio University, Athens, Ohio.

## NATIONAL DEFENSE FELLOWSHIPS

Ohio University has been granted a number of fellowships under Title IV of the National Defense Education Act. Inquiries relative to the provisions and availability of these grants should be directed to the Graduate College office.

## LOANS

For a student to be eligible for a loan, he must be accepted for enrollment at Ohio University, be in good standing at his undergraduate alma mater, and show justifiable financial need for the amount of the loan to pursue a course of study.

Graduate students are eligible to apply for a loan of up to \$2500 in one academic year and \$10,000 in the aggregate. The interest rate is three percent on the unpaid balance and the interest accrues beginning one year after graduation. The first payment is due two years after graduation unless deferred while the borrower is at-

tending an institution of higher education as a full-time student and during any period, not to exceed three years, in which the borrower is a member of the Armed Forces or is serving with the Peace Corps or VISTA. Repayment of the principal of the loan is to be made over a ten-year period. The borrower may, however, accelerate his repayment and reduce the total interest charged.

Up to one-half of any loan, in addition to accrued interest, is cancelled for service as a full-time teacher in a public or private non-profit elementary or secondary school, or in an institution of higher education. The loan and interest is cancelled upon death or permanent and total disability of the borrower.

All loans must be evidenced by a note and the Ohio University Financial Aid Committee requires a co-signer in all cases, preferably a parent or guardian. This regulation applies to those students of legal age, regardless of their marital status. The deadline for a NDEA loan is June 1 for the fall semester or for the entire academic year, and November 15 for second semester applications only. Summer school application deadline is May and results are forwarded at the end of May.

Further information concerning the loan program and forms for applying for loan assistance may be requested of the Director of Student Financial Aids, Ohio University, Athens, Ohio 45701.

# THE GRADUATE PROGRAM

The graduate program at Ohio University provides advanced professional training in the area of a student's field of specialization and affords opportunities for the conduct of research and special investigations. The program of graduate study should become an initiation into methods of intensive study and research in some selected area of knowledge. It is the objective of the Graduate College to provide its students with a high degree of professional competence.

Graduate degrees are granted in the following areas:

- Accounting
- Architecture (minor only)
- Art
- Art Education
- Bacteriology
- Botany
- Business Administration
- \*Chemistry
- Classical Languages (minor only)
- Dramatic Art and Speech
  - \*Public Address
  - \*Radio-Television
  - \*Speech Pathology and Audiology
- Theatre
- Economics
- \*Education
  - \*Elementary
  - Secondary
  - \*Administration and Supervision
  - \*Guidance, Counseling, and Student Personnel
- Engineering
  - Chemical
  - Civil
  - \*Electrical
  - Mechanical
- \*English
  - \*Linguistics
- \*Fine Arts
- Geography (minor only)
- Geology
- Government
- History
- Home Economics
- Human Relations
- Industrial Arts
- Journalism
- Mathematics
- Modern Languages
  - French
  - German
  - Russian (minor only)
  - Spanish
- Music

- Music Education
- Philosophy
- Photography
- Physical Education and Athletics
- \*Physics
- \*Psychology
- Sociology and Anthropology
- Zoology

\*Ph.D. granting areas

## THE MASTER'S DEGREE

### RESIDENCE AND CREDIT

At least 30 semester hours of credit are required for the master's degree. Additional hours may be required by individual departments. A maximum of 8 semester hours of graduate credit with A or B grades may be accepted by transfer from approved institutions which offer the master's degree, provided the transferred course work is acceptable to the student's adviser and is *not more than five years old*. Credit for courses taken by correspondence is not accepted toward the degree. A *maximum of 12 semester hours taken in the Ohio University Branches or 6 hours by extension is accepted toward the master's degree*. A graduate student who is employed full time may, with the approval of his major adviser and the Dean of the Graduate College, carry a maximum of 6 hours of credit in a semester or a summer session of eleven weeks.

A student seeking the master's degree under either the thesis or the nonthesis plan *must be officially registered for at least one semester hour of credit in the session in which he receives his degree*. The adviser may recommend that registration be for more than the stipulated hour.

### REQUIREMENTS FOR THE MASTER'S DEGREE

For the Master of Arts, Master of Education, Master of Science, Master of Fine Arts, or Master of Business Administration degree the student may write a thesis under the direction of his adviser on a subject approved by the graduate committee of the department.

Nonthesis programs, with a minimum

requirement of 30 semester hours, are available in selected areas. At present they are:

For the *Master of Arts* degree in English, History and Speech non-thesis programs are available.

For the *Master of Business Administration* degree and the *Master of Science* degree with a major in Accounting nonthesis options are provided.

For the *Master of Education* degree an optional program is available which includes a minimum of 32 semester hours, with appropriate experience in writing in a seminar course. This program of study is also available to students of Physical Education, Industrial Arts, and Home Economics, as well as Education. Other areas of study may be included. These programs are designed especially for teachers, administrators, and others engaged in and preparing for educational work in the public schools.

All programs for majors in Education leading to the Master of Education degree will include Education 488, Introduction to Graduate Study, which provides training in research methods and writing appropriate to the work of teachers and administrators.

Students in other areas which make provision for the Master of Education degree with the nonthesis option are referred to the specific requirements in their field of study.

For the *Master of Fine Arts* degree with a major in applied music a public recital and a recording may be offered in lieu of thesis.

For the *Master of Fine Arts* degree in Painting, Sculpture, or Photography, involving completion of a minimum of 48 semester hours, a show may be given in partial fulfillment of the thesis requirement.

#### PROGRAMS OF STUDY AND STUDENT LOAD

A student's program of study is made up of two parts, a major and a minor, unless a program otherwise arranged is approved by the adviser and the graduate committee of the department. Since graduate work implies advanced study and some degree of specialization, a certain amount of undergraduate preparation in a subject or field of study is presupposed before graduate study may be undertaken in that subject or field. In most departments a minimum of 18 semester hours of undergraduate work is required for the major. The student is referred to the requirements listed by departments. The program in the

major field varies from 12 to 20 semester hours exclusive of research and thesis (under the thesis plan), with a total of two to six semester hours allowed for research and the thesis. The minor field in such cases make up the remainder of the program required for the degree and is selected from one or two fields of instruction closely related to the major field. A minimum of eight or nine semester hours constitutes the requirement for a single minor and a minimum of six semester hours in each of two areas of study the requirement for a joint minor. All of the work for the master's degree may be done in one department, school, or field on recommendation of the adviser and with the approval of the graduate committee of the department.

The maximum full-time academic load for a graduate student is 16 credit hours per semester (12 hours in the summer session of eleven weeks).

#### ADMISSION TO CANDIDACY

Admission to the Graduate College does not constitute admission to candidacy for a degree. In order to be admitted to candidacy for the master's degree, a student must have demonstrated ability and fitness to pursue graduate work in his chosen field by completing a minimum of 12 semester hours of graduate work with a scholastic average of 3.0 or above within his program of graduate study. A further condition of admission to candidacy is the official approval of a prospectus or, under the nonthesis program, the selection and approval of a problem for investigation to be presented in the seminar or proseminar.

*The student must apply for admission to candidacy as soon as he has met these preliminary requirements, not later than two weeks (one week in the summer session) following the opening of his next session of residence.* A student not eligible for candidacy, on completion of 12 semester hours, by reason of a scholastic average below 3.0 in all graduate work completed prior to application for candidacy, or because of failure to select an approved thesis topic, will have his qualifications reviewed and may be denied the opportunity to pursue further work, or may be classified as a non-degree student. Application forms for admission to candidacy are obtained at the Graduate College office.

#### EXAMINATIONS

A *major examination* may, at the discretion of the department, be required. The nature and timing of the examination will be determined by the department. The

results of any such examination must be reported to the Graduate College *within one week* on forms provided by the Graduate College. A candidate who fails the major examination may retake the examination at the discretion of the committee on graduate study in the department concerned.

An *oral thesis examination*, for those submitting a master's thesis, shall be given not later than one week before the degree is to be conferred. The examining committee shall be composed of the director of the thesis as chairman and two or more additional faculty members. Results of the examination will be reported to the Graduate College office on forms furnished by the Graduate College. This report should be filed *within two days* of the time of the examination.

## THESIS

The candidate prepares his thesis under the direction of his thesis director on a subject in the field of his major work. The thesis provides an opportunity for the student to formulate and express the results of his research and study. The thesis requirement may be met by the presentation of the results of a creative activity in literature, music, fine arts, or industrial arts, together with a written essay indicating the purpose, procedure, problems, and bibliography involved in the work. The format which gives directions and style for writing the thesis is obtained in the office of the Graduate College.

*The student and his thesis director are responsible for the maintenance of accepted standards of grammar, sentence structure, punctuation, form, and scholarly style in the thesis.*

A list of competent thesis typists is available in the Graduate College office. It is recommended that the manuscript be put in final typed form by one who has had experience in thesis typing.

The finished typed copies of the thesis must be distributed to the members of the student's examining committee at least one week prior to the date of the oral examination in order that adequate review of the manuscript may be made by the examining committee prior to the examination.

After the thesis is approved by the Graduate College and not later than five days before the degree is conferred, the candidate files two unbound copies of the thesis with the university librarian and one bound copy of the thesis with the office of

the Graduate College. The two copies filed with the university librarian are bound and retained in the university library, and the copy filed with the Graduate College is presented to the school or department in which the work has been done.

If the student desires a bound copy of his thesis, arrangements for this service can be secured through the library.

## TIME LIMIT FOR THE MASTER'S PROGRAM

The maximum time allowed between the date when a student first registers for graduate study and the date when the requirements for the master's degree are completed is six calendar years. Students who do not complete their requirements for the degree within the six-year period may be permitted to continue in graduate study only if exceptional circumstances are associated with the delay in progress. An extension of time is automatically granted to those students whose programs have been interrupted by military service.

## THE DOCTOR OF PHILOSOPHY DEGREE

The doctor's degree is granted on the basis of evidence that the candidate has achieved a high level of scholarship and proficiency in research rather than solely on the basis of successful completion of a prescribed amount of course work. The proficiency of the student and his ability to work independently and to write creatively are established by a series of qualifying and comprehensive examinations and the quality of a dissertation submitted as an account of the student's original research.

## RESIDENCE AND CREDIT

A minimum of six semesters of study and research beyond the bachelor's degree is needed to meet the requirements of the doctor's degree. At least two semesters of the doctoral program of study shall be in continuous residence at Ohio University in an institutional full-time status. One 11-week summer session may be counted for this purpose as one semester. The continuous residence requirement applies to the period of graduate study following the completion of the master's degree or the equivalent of approximately 30 semester hours of graduate study.

## TRANSFER OF CREDIT

The amount of credit accepted by transfer from another university will be determined by the graduate committee of the department concerned and the Dean of the Graduate College.

## PROGRAM OF STUDY

The graduate program for the doctor's degree will usually include, in addition to the major subject, at least two minor subjects of study, one of which may be in the field of the major, with the other in a field distinct from but related to the major. The student will be assigned an adviser by the graduate chairman of the major department who will, with an advisory committee appointed by the department, outline the proposed program of study for the degree. The courses will be indicated on a special form supplied for this purpose and one copy must be filed in the Graduate College office. A minor will normally involve a minimum of 12 semester hours of study.

## TIME LIMIT FOR THE DOCTOR'S PROGRAM

The maximum time allowed between the date when a student holding a bachelor's degree initiates graduate study and the date when the requirements for the doctor's degree are completed is seven calendar years. For a person holding a master's degree the maximum time allowed from the date of initiating work toward a doctorate and the date when the requirements are completed is six calendar years.

Students who do not complete their requirements for the degree within the given period may be permitted to continue in graduate study only if exceptional circumstances are associated with the delay in progress. An extension of time is automatically granted to those students whose programs have been interrupted by military service.

## COMPREHENSIVE EXAMINATION

Toward the end of the student's fourth full semester of graduate study, or when course work is virtually completed, and upon the recommendation of his advisory committee, the student takes his comprehensive examination, which is given for the purpose of establishing his mastery of the fields of specialization or his readiness for advanced research. The results of

the examination must be reported to the Graduate College within *one week* on forms provided by the Graduate College.

The committee for this examination consists of the student's advisory committee and at least two members of the major department appointed by the chairman of the major department. Other members of the faculty are free to participate in the oral phase of this examination.

## LANGUAGE REQUIREMENT

Prior to admission to candidacy the student must give evidence of a reading knowledge of two foreign languages. The languages required should be established in terms of the student's interests and objectives. In certain areas of study a department may substitute another research tool for one language, such as demonstrated proficiency in statistics. The language and statistics proficiency examinations are given at stated intervals. Copies of the regulations for these examinations may be obtained from the office of the Graduate College.

## ADMISSION TO CANDIDACY

Upon successful completion of the comprehensive examinations, fulfillment of the language requirement, and official approval of a research proposal, a student may, by recommendation of his departmental graduate committee, be admitted to candidacy. *Candidacy must be obtained prior to the beginning of the last two semesters of residency for the degree.*

## DISSERTATION

A dissertation which is the scholarly account of an investigation or research in a new area of knowledge is submitted by each candidate. *The student expecting to receive the Ph.D. degree must be registered for at least two semester hours of credit in the session in which he receives his degree.* The adviser may recommend that registration be for more than the stipulated two hours.

An *oral examination* on the dissertation shall be given not later than one week before the degree is to be conferred. The examining committee shall be composed of the student's doctoral committee, with the dissertation director as chairman, and a representative of the Graduate Council as appointed by the Dean of the Graduate College. The final arrangements for the

examination shall be completed *through the Graduate College office* at least ten days prior to the examination. Details of the examination, including time and place, will be sent to the examiners and to the student from the Graduate College office.

No later than one week prior to the date of the oral examination at least three copies of the finished manuscript must be distributed to members of the examining committee. The original copy is brought to the Graduate College office for the member of the Graduate Council who will serve on the examining committee.

At least one week before the close of the semester in which the candidate receives his degree all approved copies of the dissertation, together with one copy of an abstract of about 600 words and two copies of a two or three sentence abstract (all signed by the dissertation director) are submitted to the Dean of the Graduate College for final approval.

At this time the original and first carbon copies of the dissertation and the longer copy of the abstract are filed with the University library. A binding fee of \$3.75 per copy and a microfilming fee of \$25.00 are paid to the treasurer of the University.

The original copy of the dissertation will be given to University Microfilms, Inc. for editing and microfilming, and will be made available for use by inter-library exchange. It is then returned to the Edwin Watts Chubb Library at Ohio University. The longer abstract will be submitted to University Microfilms, Inc., Ann Arbor, Michigan, for publication in *Dissertation Abstracts*. The second carbon of the dissertation will be bound as directed and submitted to the student's major department.

## AREAS OF GRADUATE STUDY

### ARTS AND SCIENCES

Qualified students may pursue graduate study leading to the *Master of Arts* degree in one of the following areas of instruction:

Bacteriology, Botany, Chemistry, Economics, English, Geology, Government, History, Human Relations, Linguistics, Mathematics, Modern Languages, Philosophy, Physics, Psychology, Sociology and Anthropology, or Zoology.

The *Master of Science* degree is granted to candidates whose undergraduate preparation provided the Bachelor of Science

degree or its equivalent and whose graduate major is in one of the following areas of instruction:

Bacteriology, Botany, Chemistry, Geology, Mathematics, Physics, Psychology, and Zoology.

The *Doctor of Philosophy* degree is granted in Chemistry, English, Physics, and Psychology.

The Computer Center in the basement of the Business Building houses a digital computer, the IBM/360 model 40, with 128 K core memory. This computing system, with auxiliary equipment, is available for teaching and research.

Radiochemistry and neutron physics laboratories, including a subcritical reactor, are available for training and research. The solid state physics laboratory includes a large magnet, nitrogen liquefier, and liquid helium cryostats. The nuclear radiation laboratory features a high resolution time-of-flight spectrometer. The high energy physics laboratory includes automated scanning and measuring equipment for bubble chamber photographs.

### BUSINESS ADMINISTRATION

Qualified students may pursue graduate study leading to the following degrees:

The *Master of Business Administration* degree provides a broad program of study in each of the functional areas of business. It is not intended to provide extensive specialization in any one field; however, up to 40 per cent of the work in the M.B.A. program may be elected in one of the following fields: Accounting, Economics, Finance, Management, and Marketing-Advertising.

The *Master of Arts* degree with a major in Economics provides work in advanced economics leading to positions in business and government.

The *Master of Science* degree with a major in Accounting provides an opportunity for specialized professional preparation in this area. A student with undergraduate background in business may complete the degree in one year of advanced study.

### EDUCATION

Graduate students directing their efforts toward advanced professional training for administrative, teaching, and student personnel positions in education may receive the *Master of Education* degree or the *Doctor of Philosophy* degree.

The master's degree is granted to those completing graduate programs in: Admin-

istration, School Supervision, Elementary or Secondary School Teaching, Guidance and Counseling in Elementary and Secondary Schools, and Student Personnel Services in Higher Education.

The doctor's degree is granted to those completing programs in: Administration, Supervision, Counselor Education, Guidance and Counseling in Elementary and Secondary Schools, Elementary Education, and Student Personnel Services in Higher Education.

The Center for Educational Research and Service is designed to make available the resources of the College of Education and of the University to educational workers—teachers, administrators, and supervisors. These resources are also available to boards of education and to the public in communities served by Ohio University.

The resources of the Center for Educational Research and Service and the Projects which it conducts offer opportunities for graduate students in the use of these practical materials and in participation in field studies of realistic educational problems.

The resources of the Guidance Training Laboratory provide special guidance services for students enrolled in the College of Education, and others who wish assistance with problems of vocational and educational choice. Students are accepted who volunteer or who are referred by staff. Counseling and testing is provided by graduate students under supervision and by professional staff of the Department of Guidance Counseling and Student Personnel of the College of Education. Referral arrangements are maintained with other counseling services of the University. There is no charge for the usual services of the Laboratory. Students wishing to use the services of the Laboratory should make appointments by reporting to Room 346, McCracken Hall.

The Reading Laboratory—which shares the reception office and the observation room with the Guidance Laboratory—consists of three testing and tutoring offices and a large reading room. Its facilities include various tests and testing equipment, a collection of children's literature, educational materials, and instructional devices. Experiences in the diagnosis and treatment of reading difficulties are offered through the course Education 310: "Reading Laboratory Practicum."

## ENGINEERING

Programs of graduate study leading to the *Master of Science* degree in chemical,

civil, electrical, and mechanical engineering are available.

The *Doctor of Philosophy* degree is granted in electrical engineering.

## FINE ARTS

The degree *Doctor of Philosophy* is granted in Public address, Speech Pathology and Audiology, Radio Television, and Fine Arts.

The Doctoral program in Fine Arts stresses the interrelationship of major art forms through a sequence of comparative studies pointing toward a synthesis of knowledge and understanding in the Fine Arts. Students trained at the level of the master's degree in the studio or in practical aspects of one of the particular arts will utilize this training as a minor area of study in the doctoral program.

The *Master of Fine Arts* degree may be granted to students who major in one of the following areas of study:

## DRAMATIC ART AND SPEECH

The program of dramatic art and speech is centered in the Speech and Theatre Building, equipped with modern facilities for the University Theatre, the University Speech and Hearing Clinic, the radio station—WOUB—AM and FM, television station, and special rooms for the forensics program. Graduate students may participate in production, directing, technical work, costuming, make-up, house-management, or promotion of the presentations of the University Theatre.

Graduate students in speech therapy acquire firsthand experience in working with all types of defective speech in both the university clinic for students and in the children's clinic. Mature students may be given some supervisory responsibility.

An extensive program of first-year debating and varsity intercollegiate debating for both men and women, together with intercollegiate contests in oratory and interpretation, provides ample opportunities for graduate students in public address to gain practical experience in the direction of a forensics program.

## MUSIC

The School of Music offers the degree of *Master of Fine Arts* or *Master of Education*. For the degree of *Master of Fine Arts* the major field may be in Theory and Composition, Music Literature, Music Education, or Applied Music (voice, piano, organ, violin, cello, brass, and woodwind). The *Master of Education* degree may be granted to those majoring in music education.

## PAINTING AND ALLIED ARTS

The graduate program leading to a *Master of Fine Arts* degree with a major in Art Education, Ceramics, Drawing, Jewelry, Painting, Photography, Prints, Sculpture, or Weaving requires the completion of at least 48 semester hours, including credit for research and thesis.

## HOME ECONOMICS

The School of Home Economics offers a broad and extensive program in home economics and related fields leading to the *Master of Science* or *Master of Education* degrees. Major work at the graduate level is offered in four fields—Home Economics Education, Foods and Nutrition, Textiles and Clothing, Child Development and Family Life including nursery education.

## INDUSTRIAL ARTS

The basic objective of this department is to serve teachers who desire to upgrade their work by more intensive study in the field of industrial arts. The graduate courses have been developed to give the latitude necessary to meet the variations in undergraduate preparation and in the student's professional objectives. Students in this area become candidates for the *Master of Education* degree.

## JOURNALISM

The *Master of Science* degree is granted in these areas: Advertising-Management, Magazine Journalism, News Writing and Editing, Public Relations, and Radio-Television news.

The Ohio University School of Journalism is one of a select group of schools or departments of journalism that have been accredited by the American Council on Education for Journalism. The School of Journalism has its own complete laboratory facilities and also has access to the offices and equipment of the independently-owned daily, *The Athens Messenger*. United Press wire service, an AM and FM radio station, a television studio, type laboratory, dark rooms, an offset press, and an engraving plant are a part of the university equipment available.

## PHYSICAL EDUCATION AND ATHLETICS

The graduate student in physical education has optional plans of study leading to the master's degree. Plan A includes 27 semester hours of course work plus a 4 semester hour thesis. Plan B requires 32

semester hours of course work, including a 3 hour research seminar.

### Plan A

A student may work toward either the *Master of Science* or the *Master of Education* degree, depending on his background of preparation and program of graduate study.

Students who elect graduate study in physical education and the related subjects of health education and recreation may combine these interests into a major of 12 to 16 course hours and a thesis. One or two other areas will be associated with this major to complete 27 course hours plus a 4 hour thesis.

Associated areas or minors may be selected from related graduate course offerings in the University with the understanding that a minimum of 6 or more hours of prerequisite study are usually required before graduate study is permitted. The following minors are commonly selected: educational administration, guidance and counseling, history, human relations, social science, biological science, psychology, or industrial arts. The student, however, is in no way limited to these areas. The student electing to follow Plan A leading to the M.S. or M.Ed. degree will comply with the requirements outlined in the Graduate College Bulletin.

### Plan B

Under Plan B the student works toward the *Master of Education* degree. This plan is available under the same requirements as Plan A, except for the following provisions:

1. The student must be approved for this program by the committee on graduate study in physical education.
2. The student will complete a minimum of 32 semester hours of credit for the degree. Within this program 18 to 20 course hours are taken in his major field. One or two other areas will be associated with this major to complete the required hours.
3. A seminar research course is required. The student will develop a problem in health education, physical education, recreation, athletics, or a related area. The written report of the problem must conform with the format for research writing as recommended by the Graduate College.
4. The student must pass a written examination based on the courses taken in his major field of study.



# COURSES OF INSTRUCTION

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**CATALOG NUMBER**—Courses numbered 300-399 are for advanced undergraduate and graduate students, those numbered 400-499 are exclusively for graduate students, and those numbered 500 to 599 are exclusively for post masters and doctoral students.

In general, an odd number indicates the first semester of a two-semester course; an even number, the second semester.

Two numbers at the beginning of a course indicate a two-semester or year course. A *hyphen* between the numbers indicates that the course is a continuous course; that is, the first semester course is a prerequisite for the second semester. A *comma* between the numbers indicates that although the course is a two-semester course, the first semester course is not a prerequisite for the second semester.

**CREDIT**—All credit is designated in semester hours. Credit for a course is indicated by the number or numbers in parentheses following the course title, and in case of a year course, is shown for each semester. In a semester course it may be expressed thus: (3), (1 to

3), or (2 or 3); in a year course, (3-3), (3, 3), (1 to 3 — 1 to 3), or (2 or 3 — 2 or 3).

In a course carrying variable credit the credit may be expressed thus, (1 to 4), usually indicating that one hour is the minimum and four hours the maximum amount of credit allowed for the course. In those instances where a student may enroll for a course with variable credit a number of times, the maximum credit available is indicated in the course description.

**COURSE PREREQUISITES**—Basic preparation for graduate study is described under the department heading. In some instances more specific graduate prerequisites are indicated with the course descriptions.

**CLASS SCHEDULE**—A Schedule of Classes is available from the Registrar for each session.

**FACULTY**—Listing is as of September, 1965. Included are the members of the University faculty with the rank of professor, associate professor, or lecturer. Also included are those with the rank of assistant professor or instructor who teach graduate level courses.

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## ACCOUNTING

*Professors Beckert, Fenzel*  
*Associate Professors Grieco, Neubig*  
*(chairman) Reininga*  
*Assistant Professor Cox*

A student seeking the Master of Science degree with a major in accounting should either take, or have completed, 12 semester hours of advanced undergraduate courses in accounting, including cost accounting and taxes. In addition, the following business core curriculum courses should be completed: elementary accounting (6 semester hours), business law (6 semester hours), economics (6 semester hours), finance (3 semester hours), management (3 semester hours), marketing (3 semester hours), and statistics (3 semester hours).

The requirements for the M.S. degree with a major in accounting are:

Accounting 401	Economics 451
Accounting 402	Finance 401
Accounting 403	Management 410
Accounting 405	

One course to be selected from Accounting 481, Economics 450, or Finance 402. One course to be selected

from Accounting 495, Accounting 499, or Management 481.

A student may pursue the Master of Business Administration degree with his elective work in accounting. See page 27 for the M.B.A. degree requirements. On this program, the student may substitute other 400 level courses in accounting for the requirement of Accounting 425.

To begin a minor in accounting for degrees other than the Master of Science with a major in accounting and the Master of Business Administration, only the completion of basic courses satisfactory to the department is necessary.

### 305-306. ADVANCED ACCOUNTING (3-3)

*Neubig*

Problems peculiar to partnerships, receiverships, fiduciaries, installment sales, consignments, insurance, estates and trusts; compound interest applications; governmental accounting; branches, consolidations, and mergers; and foreign exchange.

### 324. STANDARD COSTS AND BUDGETS (3)

*Reininga*

The establishment of standard costs, preparation of budgets, and analysis of cost variances.

**343. FEDERAL INCOME TAX ACCOUNTING (3)***Stephenson*

Study of advanced tax problems of individuals, partnerships, and corporations including tax planning and administration.

**355. INDUSTRIAL AUDITING AND INTERNAL CONTROL (3)***Beckert*

Study of types of internal audits, audit reports, fraud, and an appraisal of the standards of internal auditing as a profession. Basic and internal controls are studied in their relation to the auditor's program.

**356. AUDITING PRINCIPLES AND PRACTICE (3)***Beckert, Neubig*

Purposes and scope of audits and examinations; audit principles and procedures; and audit reports and certificates.

**378. C.P.A. PROBLEMS (3)***Cox, Neubig*

The accounting profession; C.P.A. coaching; analysis, interpretation, and solution of state board problems. Prereq., 305 or permission.

**381. RESEARCH IN ACCOUNTING (1 to 3)***Staff*

Prereq., 305, 324, permission.

**391. SEMINAR IN ACCOUNTING (2 to 4)***Staff*

Maximum credit in course, 10 hrs. Prereq., permission.

**401. ACCOUNTING THEORY (3)***Beckert, Reininga*

The development of accounting theory historically and current developments and literature in the theory area. Prereq., permission.

**402. ACCOUNTING DATA ACCUMULATION AND ANALYSIS (3)***Neubig*

Accounting systems with particular relations to punched card and computerized data processing. Techniques in the quantitative analysis of accounting data. Prereq., permission.

**403. HISTORY, ETHICS, AND PHILOSOPHY OF THE ACCOUNTING PROFESSION (3)***Neubig*

Court cases involving the profession, Securities and Exchange Commission, regulation of practice, evolution and ethics of the profession, and the philosophy of auditing. Prereq., permission.

**405. CONTROLLERSHIP (3)***Staff*

Case method study of problems and policy-forming decisions of the controllership function which comprises the fields of general accounting, internal control, budgeting, taxes, cost control, and financial reporting. Prereq., permission.

**425. MANAGERIAL ACCOUNTING (3)***Cox*

A survey course designed for the Master of Business Administration degree student with particular emphasis on the uses of accounting data in making business decisions.

**481. RESEARCH IN ACCOUNTING (1 to 3)***Staff*

Independent study in either the area of ac-

counting theory, public accounting, controller-ship, governmental accounting, or Federal taxes. Prereq., permission.

**491. SEMINAR IN ACCOUNTING (2 to 4)***Staff*

Maximum credit in course, 8 hrs. Prereq., permission.

**495. THESIS (As recommended by dept.)***Staff*

Prereq., permission.

**499. INTERNSHIP (2 to 4)***Staff*

Six months of acceptable accounting work experience, including periodic written reports, a final report, and an oral examination—all analyzing the work experience and integrating it with the academic program pursued. Prereq., permission.

**ADVERTISING**

(See Marketing-Advertising)

**ANTHROPOLOGY**

(See Sociology and Anthropology)

**ARCHITECTURE**

(Minor only)

*Professor Clark (director)**Associate Professor Millman**Assistant Professor Tomko**Instructor Dluhosch**Lecturer Reckmeyer***311-312. CITY PLANNING (2-2)***Clark*

Lectures, seminar, special lectures on geography, sociology, economics, and political science related to city planning, contemporary examples and practice, the architect's role in planning. 2 lec. Prereq., 375.

**370. CIVIC DEVELOPMENT (3)***Dluhosch*

Investigation of the components of civic design with emphasis on historical and present examples as aids to determining the principles underlying civic design. Scale models and readings from contemporary theorists.

375. NINETEENTH CENTURY ARCHITECTURE (3) *Tomko*  
Development of building types, styles and construction techniques in America and Europe up to 1880.

376. TWENTIETH CENTURY ARCHITECTURE (3) *Tomko*  
Continuation of Arch. 375. Develops the evolution of modern architecture from 1880 to the present. Prereq., 375 or equivalent.

378. PHILOSOPHY OF ARCHITECTURE (2) *Reckmeyer*  
Theories of architecture advanced or exemplified by philosophers, aestheticians, and architects. Lectures, assigned presentations, and seminar discussions. Prereq., 377.

## ART

*Professors Leach (Director), Smith, Work*  
*Associate Professors Baldwin, Hostetler,*  
*Kortlander, Leonard, Lin, McCarthy,*  
*D. Roberts*

*Assistant Professors Eldridge, Hysell, Leedy,*  
*Loomis, Moran, Pettigrew, Von Brock*

*Instructors Jonas, O'Connor, Rhodes,*  
*Vanderplas*

*Lecturer Mutchler*

### MASTER OF FINE ARTS DEGREE

(Major in Painting and Allied Arts)

The graduate program leading to a Master of Fine Arts degree with a major in painting and allied arts involves the completion of at least 48 semester hours, including credit for research and thesis.

301. INDIVIDUAL PROBLEMS (1 to 3)

*Staff*  
Registration for individual instruction. Maximum credit in course, 12 hrs. Prereq., permission.

305. ADVANCED PAINTING (2 or 3)

*Staff*  
Maximum credit in course, 6 hrs.

309. PRINTS

a. Lithography and Relief prints (3) *Roberts*

b. Intaglio prints (3) *Jonas*

Maximum credit in course, 6 hrs.

315. ADVANCED CERAMICS (3)

*Lin*  
Advanced production methods. Construction of potter's wheel, ball mill, and electric kilns. Advanced glaze and clay testing techniques. Maximum credit in course, 6 hrs. Prereq., permission.

317-318. ADVANCED ADVERTISING DESIGN (3-3)

*Smith*  
Magazine, newspaper, direct mail, and display layout.

325. ADVANCED JEWELRY (2)

*Vanderplas*  
Maximum credit in course, 6 hrs. 1 lec., 3 lab.

328. FIGURE PAINTING (3)

*Mutchler*  
Painting from the nude or costumed figure. A study of the plastic qualities in oil painting in relation to the personal objectives of the individual student. Maximum credit in course, 12 hrs. Prereq., permission.

331. SCULPTURE (3)

*Hostetler*  
Advanced work in modeling, carving and direct metal. Theory and practice of casting processes. Maximum credit in course, 6 hrs.

351-352. INDUSTRIAL DESIGN (2 or 3—2 or 3)

*Von Brock*  
Design and presentation of industrial products with emphasis on function, appearance, and material. 4 lab. maximum credit in course, 12 hrs.

365-366. ILLUSTRATION (3-3)

*Mutchler*  
Emphasis on student practice. Story and commercial illustration using present-day techniques. Maximum credit in course, 9 hrs. Prereq., permission.

371-372. ADVANCED INTERIOR DESIGN (3-3)

*Moran*  
371: Office procedures employed in the design and execution of residential, commercial, and institutional interior. 372: Complete detailing of interior design problems—furnishing, lighting, carpeting, and color.

381. RESEARCH (1 to 5)

*Staff*  
Individual problems of theory and practice involving research techniques. Maximum credit in course, 5 hrs. Prereq., permission.

405. ADVANCED PAINTING (1 to 5)

*Staff*  
Work in traditional and contemporary media; solutions to students' problems are sought in relation to their personal objectives. Maximum credit in course, 12 hrs. Prereq., 305, permission.

409. PRINTS

a. Lithography and Relief Prints (1 to 5)

*Roberts*  
b. Intaglio Prints (1 to 5)

*Jonas*  
Experimental work in various print media and combinations thereof. Maximum credit in course, 12 hrs. Prereq., 309.

## 415. CERAMICS (1 to 5)

*Lin*

Advanced and experimental work in bodies, glazes, and kiln construction for all temperature ranges. Maximum credit in course, 12 hrs. Prereq., 315.

## 428. FIGURE PAINTING (1 to 3)

*Mutchler*

Advanced work from the nude or costumed figure. Maximum credit in course, 12 hrs. Prereq., 328 or equivalent.

## 431. SCULPTURE (1 to 5)

*Hostetler*

Advanced work in plaster, wood, stone, direct steel, and ceramic media. Maximum credit in course, 12 hrs. Prereq., 331, permission.

## 451. INDUSTRIAL DESIGN (1 to 5)

*Von Brock*

Advanced problems in the design and presentation of industrial products. Maximum credit in course, 12 hrs. Prereq., 351 or equivalent.

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## 496. STUDIO THESIS (2 to 4)

*Staff*

Prereq., permission.

**ART HISTORY**

(See Fine Arts)

**BACTERIOLOGY**

(See Zoology)

**BOTANY**

*Associate Professors Blickle, Cohn, Gambill, Miller, Vermillion, Wallace, Wistendahl (chairman)*

*Assistant Professors Graffius, Larson*

To begin a graduate major in botany, the student must have completed a minimum of 24 hours in courses in botany, or in closely related fields, subject to approval by the department chairman. At least 18 of these hours must be in botany courses, including the following botanical disciplines: physiology, morphology, and taxonomy. At least a year of general chemistry at the college level is required for the completion of the master's degree.

To begin a graduate minor in botany the student should have completed a minimum of 12 hours credit in approved course work in botany or closely related fields.

## 304. FOREST ECOLOGY (4)

*Wistendahl*

The forest environment, and methods of studying the growth and development of trees and forest stands. 2 lec. and 4 lab. (2nd sem., 1967-68.)

## 307. ADVANCED PLANT PHYSIOLOGY (4)

*Wallace*

Advanced study of plant processes with special emphasis on techniques employed in research. 2 lec. and 4 lab. Prereq., organic chemistry. (2nd sem., 1966-67.)

## 303. ADVANCED GENETICS (Botany and Zoology) (3)

*Cohn, McQuate (Zoology Dept.)*

Gene action and fine structure; biochemical genetics; microbial and radiation genetics; and cytoplasmic inheritance. (2nd sem., 1966-67.)

## 310. RADIATION BIOLOGY (same as Zoology 310) (4)

*Larson*

A study of the techniques of the use, detection and interpretation of radioactive tracers in biological problems and the effects of some radiations on living tissue. 2 lec., 4 lab. Prereq., in Botany: Courses through Plant Physiology; in Zoology: 305. (2nd Sem., yearly.)

## 311. PALEOBOTANY (4)

*Blickle*

Plant fossils throughout geological time. 2 lec., 4 lab. 2 Sat. field trips. (1st sem., 1966-67.)

## 314. DEVELOPMENTAL PLANT MORPHOLOGY (3)

*Blickle*

Development of ferns and seed plants with emphasis on embryology and organogenesis. 2 lec., 2 lab. (2nd sem., 1966-67.)

## 315. SYSTEMATIC BOTANY (4)

*Gambill*

Systematics, nomenclature, and phylogeny of angiosperms through laboratory, field, and herbarium studies, with emphasis on the fall flora. 2 lec., 4 lab. 2 Sat. field trips. (1st sem., 1966-67.)

## 316. TAXONOMY OF THE BRYOPHYTES (4)

*Gambill*

Identification, nomenclature, and classification of the bryophytes through laboratory and field studies. 2 lec., 4 lab. 2 Sat. field trips. (2nd sem., 1967-68.)

## 318. WOOD TECHNOLOGY (3)

*Blickle*

The methods of identification of woods, their uses and products with emphasis on comparative structure. 1 lec., 4 lab. 2 all-day field trips. (2nd sem., 1967-68.)

## 324. FOREST PATHOLOGY (3)

*Vermillion*

Diseases of forest and shade tree species, their economic importance, prevention, and control. 2 lec., 2 lab. (2nd sem., 1966-67.)

## 325. MYCOLOGY (3)

*Miller*

A study of specific groups of fungi, with emphasis upon physiology, including some reference to their economic importance. 2 lec., 2 lab. (2nd sem., 1967-68.)

## 327. CYTOGENETICS (3)

*Cohn*

Genetics and cytology in terms of chromosomes and their behavior; heteroploidy; chromosomal aberrations; cancerogenesis, karyotype evolution; cytotaxonomy. (1st sem., 1967-68.)

## 330. PHYTOGEOGRAPHY (3)

*Wistendahl*

Theories and principles of plant distribution as related to evolution, migration, and speciation of plants. (1st sem., 1967-68.)

## 343. BOTANICAL STUDIES (2 to 4 a semester in any of the following)

Semi-independent studies supervised by the instructor. May include inter-departmental projects. Maximum credit in any listed area, 6 hrs.; total for all areas, 9 hrs. Prereq., permission.

a. PLANT MORPHOLOGY—studies of the fundamental plant form, structure, life cycles, and reproduction. *Blickle*

b. PLANT ANATOMY—studies in the detailed structure of cells and tissues of root, stem, leaf, flower, fruit, and seed. *Blickle, Graffius*

c. PLANT PHYSIOLOGY—studies in the primary functions, processes, and growth phenomena of plants. *Larson, Wallace*

d. PLANT ECOLOGY—studies in the interrelations of plants with one another and the environment. *Wistendahl*

e. PLANT TAXONOMY—studies in the identification, nomenclature, classification, and phylogeny of plants, based on the native flora. *Gambill*

f. PLANT PATHOLOGY — studies in the nature, prevention, cause, and control of plant disease. *Vermillion*

g. PALEOBOTANY — studies in the organ histology, morphology, and classification of vascular plant fossils. *Blickle*

h. MYCOLOGY — advanced studies of non-pathogenic macrofungi and microfungi. *Miller*

i. CYTOLOGY AND CYTOGENETICS—studies of cell structure and functions; chromosome structure, composition, and behavior. *Cohn*

j. PHYCOLOGY—studies in the identification, classification, morphology, life cycles and ecology of algae. *Graffius*

## 350. BOTANICAL LITERATURE (2)

*Staff*

Introduction to the professional journals in the various branches of plant science; to significant reference works including encyclopedic, biographical and bibliographical sources; and to special publications such as those emanating from symposia and congresses. Prereq., 20 hours. (Yearly.)

## 360. PHYCOLOGY (4)

*Graffius*

Classification, life histories, morphology, physiology and ecology of fresh-water and marine algae. 3 lec., 3 lab. (1st sem., 1967-68.)

## 391,392. SEMINAR IN BOTANY (1,1)

*Staff*

Presentation of papers based on individual research or on readings in current botanical literature. Required of all graduate students. Maximum credit in course, 2 hrs. Prereq., permission. (Each sem.)

## 481. RESEARCH PROBLEMS (1 to 4)

*Staff*

Independent research leading to the master's thesis. Maximum credit in course, 6 hrs. Prereq., permission.

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## BUSINESS ADMINISTRATION

MASTER OF BUSINESS  
ADMINISTRATION

To begin graduate work in business administration, a student seeking the Master of Business Administration degree should have at least 30 semester hours in business administration, including accounting, business law, economics, finance, management, marketing, and statistics.

The program for the M.B.A. degree is as follows: Accounting 425, Economics 450-451, Finance 401-402, Management 410, Marketing 458, and either Management 481 or a thesis course in any of the above departments. In addition, sufficient courses at the 300 level or above must be taken to total 32 semester hours. (27 hours for the thesis plan). No more than 40 per cent of the work in the M.B.A. program may be taken in a single department.

## BUSINESS LAW

(Minor only)

*Professor Howard**Assistant Professor Kloss (chairman)**Assistant Professor Notestine*

A graduate major in business law is not available. A minor may be developed in this area of study. To begin work in business law, the student must have completed basic courses satisfactory to the department.

## 342. LAW OF REAL ESTATE (2 or 3 as scheduled)

*Howard, Kloss, Notestine*  
Deeds, mortgages, leases, and other interests in real property, and the relationships between landlord and tenant.

## 362. LAW OF ESTATES AND TRUSTS (2 or 3 as scheduled)

*Howard, Kloss*  
The nature, creation, administration, and disposition of estates and trusts along with the principles of law pertaining thereto, and a consideration of the problems involved in planning an effective and economical gift distribution of property interests.

## 375. GOVERNMENT AND BUSINESS (3)

*Howard, Notestine*  
A study of statutes and court decisions by which government controls, regulates, and aids business under the commerce clause, the police power, and the anti-trust laws.

## 381. RESEARCH IN LAW (1 to 8)

Prereq., permission.

*Staff*

## CERAMICS

(See Art)

## CHEMICAL ENGINEERING

(See Engineering)

## CHEMISTRY

*Professors Brooks, Clippinger, Day, Eblin, Huntsman (chairman), Ingham, Kline, Sympton*

*Associate Professors Paudler, Tong*  
*Assistant Professors Clearfield, Hendricker, Jewett, Westenbarger, Winkler*

To begin a graduate major in chemistry the student must have completed a full year's work in quantitative analysis (8 hours), organic chemistry (10 hours), and physical chemistry (6 hours). Calculus (8 hours) and physics (8 hours) are also required.

The minimum undergraduate preparation for a graduate minor in chemistry includes general chemistry and introductory courses in analytical and organic chemistry.

Students beginning graduate work in chemistry are required to take an entrance examination covering inorganic, analytical, organic, and physical chemistry. This examination is administered during registration week and the results are consulted in planning the course work of the students.

## 303. ADVANCED QUANTITATIVE ANALYSIS (3)

*Sympton*  
A lecture course in classical analytical chemistry for entering graduate students needing further training in analytical chemistry. Prereq., 314. (Yearly.)

## 305. INSTRUMENTAL ANALYSIS (4)

*Sympton*  
Methods of instrumental analysis: potentiometry, polarography, coulometry, emission and absorption spectroscopy, X-ray spectra, X-ray diffraction, chromatography. 2 lec., 6 lab. Prereq., 311 or 313. (Each sem.)

## 311. PHYSICAL CHEMISTRY (3)

*Clearfield, Eblin*  
For students in pre-medicine, comprehensive science, and A.B. chemistry majors. Recommended as a graduate minor for fields other than chemistry. Prereq., 12 hrs. chem., 5 hrs. math. (1st sem., yearly.)

## 315. PHYSICAL CHEMISTRY LABORATORY (2)

*Eblin*  
6 lab. Prereq., 311 or 313 or with 311 or 313. (Each sem.)

## 317. CHEMICAL THERMODYNAMICS (3)

*Day, Westenbarger*  
Prereq., 314. (1st sem., yearly.)

## 318. PHYSICAL CHEMISTRY (3)

*Brooks, Clearfield, Westenbarger*  
Introduction to quantum chemistry. Prereq., 314 (Yearly.)

## 321. QUALITATIVE ORGANIC ANALYSIS (4)

*Ingham, Winkler*  
The separation and identification of organic compounds. Applications of spectroscopic methods are emphasized. 2 lec., 6 lab. Prereq., 305.

## 323. ORGANIC CHEMISTRY SURVEY (3)

*Huntsman, Jewett*  
Basic reactions and concepts of organic chemistry. (1st sem., yearly.)

## 333. INORGANIC CHEMISTRY (3)

*Hendricker, Kline*  
Inorganic chemical reactions and structure. Prereq., 311 or 313, or with 311 or 313. (1st sem., yearly.)

## 335. RADIOCHEMISTRY (3 or 4)

*Tong*  
An introductory course in the application of isotopes to problems in chemistry, and the chemical effects of the radiation and mass of isotopes. 2 lec. and 3 or 6 lab. (Yearly.)

## 350. CHEMICAL LITERATURE (2)

*Staff*

Introduction to chemical literature in journals, handbooks, monographs, and patents. Particular emphasis will be given to selected problems in finding, assembling, and using chemical data. Prereq., 24 hrs., reading knowledge of German.

## 351. SPECIAL PROBLEMS IN CHEMISTRY (2 or 3)

*Staff*

Minor research with laboratory and library work. Maximum credit in course, 6 hrs. (Each sem.)

## 405. ELECTROCHEMICAL METHODS OF ANALYSIS (3)

*Simpson*

A course dealing with the fundamentals and applications of potentiometric titrations, conductometric titrations, coulometry, voltammetry, amperometric titrations, and chronopotentiometry. Prereq., 305.

## 406. OPTICAL METHODS OF ANALYSIS (3)

*Simpson*

Application of emission spectroscopy, absorption spectroscopy, X-rays, fluorophotometry, nephelometry, and turbidimetry to chemical analysis. Prereq., 305.

## 408. MODERN TECHNIQUES OF CHEMICAL SEPARATIONS (3)

*Staff*

The fundamentals and applications of ion exchange, chromatography, electrodeposition, electrophoresis, and extraction. Prereq., 303.

## 410. SPECIAL TOPICS IN ANALYTICAL CHEMISTRY (2 or 3)

*Staff*

Topics of special interest in analytical chemistry. Electronics, nuclear magnetic resonance, solvents, and organic reagents. Prereq., permission.

## 418. CHEMICAL KINETICS (3)

*Day, Tong*

Insight into the mechanisms by which chemical reactions occur and the energies involved, through interpretation of data on rates of reactions. Prereq., 314. (2nd sem., yearly.)

## 425. QUANTUM CHEMISTRY (3)

*Brooks, Westenbarger*

The fundamentals of quantum theory and their application to some systems of chemical interest. Prereq., 318.

## 427. MOLECULAR STRUCTURE (3)

*Brooks*

Prereq., 318.

## 434. ADVANCED INORGANIC CHEMISTRY (3)

*Clearfield, Hendricker, Tong*

Modern theoretical inorganic chemistry. Prereq., 333. (2nd sem., yearly.)

## 437. SOLUTIONS (3)

*Tong*

Selected topics in solution thermodynamics and kinetics, such as stoichiometry, theories of electrolytes, electrochemistry, irreversible processes, kinetics of induced reactions, acid-base catalysis, photochemistry, and heterogeneous reactions. Prereq., 314.

## 439. LESS FAMILIAR ELEMENTS (3)

*Hendricker, Kline*

The chemistry of lanthanide and actinide elements, other less familiar elements, and less familiar oxidation states of common elements. Prereq., 333.

## 441. COORDINATION COMPOUNDS (3)

*Kline, Tong*

The classification, nomenclature, synthesis, structure, equilibrium and kinetics of substitution and isomerization reactions of coordination compounds, and the nature and energetics of the coordination bond. Prereq., 333.

## 442. ADVANCED BIOCHEMISTRY (3)

*McQuate, Wilson, Winkler*

Same as Zool. 442. Enzyme kinetics, metabolic pathways, protein synthesis, and related topics. 3 lec. Prereq., Zool. 335; Physical Chem. (2nd sem., yearly.)

## 445-446. ADVANCED ORGANIC CHEMISTRY (3-3)

*Jewett, Paudler*

Modern aspects of organic chemistry with emphasis on the relationships between structure and reactivity. (Yearly.)

## 451,452. SEMINAR IN CHEMISTRY (1,1)

*Staff*

Required of all graduate students in chemistry each semester in residence.

## 469,470. STRUCTURE DETERMINATION BY SPECTROSCOPIC METHODS (2,2)

*Staff*

Modern methods for determining molecular structure are considered. Topics included are nuclear magnetic resonance, electron paramagnetic resonance, infrared, Raman, ultraviolet, and visible spectroscopy.

## 471. PHYSICAL ORGANIC CHEMISTRY (3)

*Jewett, Winkler*

The application of modern concepts to the mechanisms of organic reactions. Both ionic and free-radical reactions are discussed. The impact of quantum mechanics on theoretical organic chemistry is emphasized. Prereq., 446.

## 474. ALKALOIDS (2)

*Paudler*

General principles of isolation, structure determination, and biogenesis of alkaloids and related substances. Prereq., 446.

## 475. TERPENES (3)

*Huntsman*

The chemistry of terpenes and related compounds, with particular emphasis on classical and modern methods of proving structure. Prereq., 446.

## 447. HETEROCYCLIC COMPOUNDS (2 or 3)

*Ingham*

Principal heterocyclic systems, including some related natural products. Prereq., 446.

## 479. ADVANCED TOPICS (2 or 3)

*Staff*

Special topics as required for advanced students. Prereq., permission.

## 480. RESEARCH TECHNIQUES (3)

*Staff*

Lectures and laboratory practice in skills of research, such as glass-blowing, vacuum work, crystallization, and distillation. Prereq., permission.

## 481. RESEARCH IN CHEMISTRY

(As recommended by dept.)

*Staff*

Prereq., 36 hrs. (Yearly.)

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## 581. DOCTORAL RESEARCH IN CHEMISTRY

(As recommended by dept.)

*Staff*

## 595. DISSERTATION (As recommended by dept.)

*Staff*

Prereq., permission.

## CIVIL ENGINEERING

(See Engineering)

## CLASSICAL LANGUAGES

(Minor only)

*Professor Murphy (chairman)**Assistant Professor Urdahl**Instructor Hultgren*

Major work on the graduate level in Greek and Latin is not offered.

The prerequisite for a graduate minor in Latin is 12 hours of Latin above two high school units.

The prerequisite for a graduate minor in Greek is 12 hours of Greek.

## GREEK

## 309. ADVANCED GREEK READINGS (1 to 3)

*Hultgren, Urdahl*

Selections from the poets, dramatists, orators, and philosophers to fit the interests and needs of students. Maximum credit in course, 9 hrs. (Yearly.)

## LATIN

## 303. PLINY AND MARTIAL (3)

*Murphy*

Letters and epigrams revealing the human side of Roman life and society from Nero to Trajan. (1st sem., 1968-69.)

## 304. LIVY AND OVID (3)

*Urdahl*

The legendary history of early Rome and mythology in verse. (2nd sem., 1966-67.)

## 311. CICERO (LETTERS) AND CATULLUS (POEMS) (3)

*Hultgren*

(1st sem., 1966-67.)

## 318. READINGS IN LATIN LITERATURE (1 to 4)

*Hultgren, Murphy*

Selections from a wide range of Latin literature according to the needs and interests of students. Maximum credit in course, 10 hrs. (Both semesters, 1967-68.)

## 331. THE LIFE OF THE ROMANS (2)

*Hultgren*

The social customs of the Romans: the family, the house, transportation, public amusements, and related features. Illustrations from the archaeological evidence. (Given upon sufficient demand.)

## 333. ADVANCED LATIN SYNTAX (2)

*Murphy*

(Given upon sufficient demand.)

## 340. SPECIAL WORK IN LATIN (1 to 4)

*Hultgren, Murphy*

Specialized work in selected phases of Classical study. Maximum credit in course, 8 hrs.

## DESIGN

(See Art)

## DRAMATIC ART

(See Speech)

## ECONOMICS

*Professors Crewson, Levinson (chairman), Picard*

*Associate Professors Charlé, Darcy*

*Assistant Professors Bogar, Bradfield, Hall, Koshal, Levine, Vedder*

To begin a graduate major in economics, a student seeking the Master of Arts degree should have at least 30 semester hours in business administration and/or related social sciences, including Principles of Economics. For those pursuing any graduate degree, the same requirements apply in the choice of economics as a minor field.



A student may pursue the Master of Business Administration degree with his elective work in economics. See page 27 for the M.B.A. degree requirements.

### 304. REGIONAL ANALYSIS (3)

*Staff*

Theories of regional and interregional relationships and policies for regional development. Consideration of economic, geographic, demographic, political, and social factors.

### 305. ECONOMICS OF TRANSPORTATION (2 or 3 as scheduled)

*Staff*

### 307. ECONOMICS OF POVERTY (3)

*Darcy*

Causes and consequences of poverty in an affluent society. A review of the economic basis of public policy issues involving the reduction of poverty.

### 309. PUBLIC UTILITIES (2 or 3 as scheduled)

*Bogar, Levinson*

The economic basis of the public utility concept and its relation to business organization. The nature, scope, development, legal organization, and regulation of public utilities.

### 315. PUBLIC FINANCE (3)

*Hall*

Analysis of spending and taxing functions of federal, state, and local governments. The growing importance of fiscal policy in determining level of employment. The economic effects of the various taxes of federal, state, and local governments.

### 320. ORGANIZATION AND STRUCTURE OF INDUSTRY (3)

*Bogar, Charlé*

Emphasizes the economic characteristics of the principal manufacturing and processing enterprises, and considers their historic development, financial organization, and legal aspects.

### 325. ECONOMIC POLICY AND INDUSTRIAL ORGANIZATION (3)

*Bogar, Charlé*

An examination of the social consequences of monopoly and competition, trends in industrial concentration, the consequences of bigness, the relationship between market structure and national income, and the concept of "workable" competition. National policy relating to economic concentration and market structure will be considered as well as the impact of this national policy on United States business.

### 329. COMPARATIVE ECONOMIC SYSTEMS (3)

*Charlé, Crewson*

An analysis of the institutional framework of the following systems: modified capitalism, socialism, communism, and fascism. Special emphasis is given to the prevailing economic institutions in the United States, Great Britain, Russia, and Spain.

### 330. HISTORY OF ECONOMIC THOUGHT (3)

*Picard*

The historical evolution of the major economic doctrines; mercantilists and cameralists, physiocrats, Adam Smith and the classical school, the historical school, the Austrian school, Alfred Marshall and the neo-classicists.

### 332. MODERN ECONOMIC THOUGHT (3)

*Picard*

An analysis of the contributions to economics of the most significant writers since Alfred Marshall.

### 333. ECONOMICS OF THE FIRM (3)

*Bradfield, Koshal*

An intensive study of the price system as an allocative mechanism. This includes the price and production policies of individual firms under alternative market conditions and an analysis of the effect of these policies on the social efficiency of resource allocation.

### 335. LABOR ECONOMICS (3)

*Levinson*

Survey of the economic forces generating modern labor problems. Among the topics considered are: history of the labor movement, labor in politics, labor-management relations, wages, and full employment.

### 338. LABOR LEGISLATION (3)

*Levinson*

Survey of the law bearing upon labor problems. Among the topics considered are: labor-relations legislation, old-age and unemployment insurance, workmen's compensation, and wages-and-hours legislation.

### 342. INTERNATIONAL ECONOMICS (3)

*Picard*

A study of the economic relations of nations of the world. Some of the topics considered are: the economic basis for international trade and investment; the mechanics of international exchange; tariffs, quotas, exchange control, cartels, and state trading as devices of economic nationalism; and international economic cooperation with special reference to organizations affiliated with the United Nations.

### 350. NATIONAL INCOME AND EMPLOYMENT ANALYSIS (3)

*Bogar, Bradfield, Koshal*

A study of the factors which determine the level of the nation's economic activity and which are responsible for growth and stability in the nation's economy. Part of the course is devoted to measures of the national income while the remainder consists of an analysis of the interrelationships among production, price levels, relative prices, employment, and capital formation.

### 355. MATHEMATICAL ANALYSIS IN ECONOMICS (3)

*Bradfield*

Designed to acquaint the student with rudimentary mathematical techniques and their application to economic analysis. Problems and examples.

## 362. INTRODUCTION TO ECONOMICS (3)

*Koshal*

Survey of the major areas of econometric work; sources and uses of quantitative information in economics; techniques and results of econometric work on demand, production, cost functions, and income and wealth distribution. Prereq. 355 or permission.

## 375. ECONOMIC DEVELOPMENT (3)

*Charlé, Crewson*

An analysis of the nature of, obstacles to, and future possibilities for the economic growth of nations. Special emphasis is given to the problems of the underdeveloped countries. Studies of selected countries are utilized.

## 376. AFRICAN ECONOMIC DEVELOPMENT (3)

*Charlé*

Prospects for the economic development of sub-Saharan Africa. Among topics considered are: its economic history, population, resources, capital investment, international trade, and the kinds of institutions which best foster economic growth. Prereq., 375.

## 378. ECONOMICS OF THE SOVIET UNION (3)

*Bogar*

Survey of the operation of the economy of the Soviet Union. Among the topics covered are: allocation of resources, planning, saving and investment, agriculture, public finance, the price system and international trade.

## 380. STUDIES IN ECONOMICS (1 to 3)

*Staff*

Directed readings and/or research in selected fields of economics. Topics selected by student with advice of staff member. Prereq., 12 hrs. and permission.

## 381. RESEARCH IN ECONOMICS (1 to 8)

*Staff*

Prereq., 15 hrs. and permission.

## 391. SEMINAR IN ECONOMICS (2 to 4)

*Staff*

Maximum credit in course, 10 hrs. Prereq., 15 hrs. and permission.

## 450. ADVANCED ECONOMIC THEORY (3)

*Hall, Levine*

Partial and general equilibrium aspects of markets and prices with emphasis on economic theory as an aid to understanding the allocation process. The relevance of the market environment to the individual decision maker is stressed. Prereq., permission.

## 451. ADVANCED ECONOMIC THEORY (3)

*Hall, Levine*

An application of Keynesian and Post-Keynesian macroeconomic theories to the determination of income, employment, and prices. A study of the aggregative framework within which individual decisions are made. Prereq., permission.

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## EDUCATION

*Professors Crowell (dean), Hicks, Hill, Hummel, Ploghoft, Shoemaker, Shuster*

*Associate Professors Boyd, Cooper, Evans, Felsing, D. Green, Krantz, Lynn, Milliken, Mills, Ploutz, C. Roberts, Sligo, Stanger*

*Assistant Professors Creason, D'Augustine, Dressel, Dumond, Ginther, Graham, Grubb, Holland, Howard, Johnson Leep, Leighty, Mallan, Nitzsche, Oates, O'Hanlon, Roaden, J. Rodgers, W. Rodgers, Schilson, Wagoner*  
*Lecturer Ray*

Students wishing to pursue advanced work in education and to qualify for school positions requiring the master's degree or to work beyond the master's degree may select from a variety of programs leading to the Master of Education degree and to the Doctor of Philosophy degree. In addition to the degree programs, Professional Competence Programs of advanced work are available in the areas of the Ph.D. majors.

## MASTER OF EDUCATION

Students wishing to major in education may have a program of study arranged with a minimum of 27 hours of course work and Education 495—Thesis, or a program of study with a minimum of 30 hours of course work and Education 478—Seminar in Education.

## MAJOR AND MINOR PROGRAMS

Programs of preparation for the most common professional goals of graduate students seeking the Master of Education degree are described in the following sections. Students seeking certification, in the state of Ohio and other states, for administrative, supervisory, and pupil personnel services positions should seek advice from their major advisers regarding requirements.

To provide a common basis in the field underlying all aspects of education, all majors are required to complete the following:

History or Philosophy of Education  
(one course)

Introduction to Graduate Study  
(Education 488)

Thesis (Education 495) or Seminar  
in Education (Education 478)

## MAJORS IN EDUCATION

The College of Education staff has prepared programs of study in several areas of specialization. These are listed below with brief comments as to their several purposes. These programs are further delineated in mimeo-

graphed form. These detailed programs, including required courses and suggested electives, may be secured from the Graduate Committee in Education or from a College of Education staff member in the specialty of interest to the inquirer.

**Elementary Education:** A program for elementary teachers who wish to pursue graduate study which provides a broad base of understanding of the problems of the elementary school, its curriculum, and its population. This program is the first phase of the graduate education required for all advanced programs in elementary education.

For students whose baccalaureate degrees represent majors in other fields, such as fine arts or liberal arts, additional hours in prerequisite general or professional courses may be required.

**Guidance and Counseling in Elementary Schools or in Secondary Schools:** These majors, leading to the Master of Education degree, qualify the candidate by training for the Ohio School Counselor Certificate, Provisional. A minimum of 20 semester hours in guidance, including supervised practicum, are required by the State Department of Education. Students wishing to major in guidance must apply in person for admission and be interviewed by a member of the staff in Counselor Education.

**Educational Administration:** The general and specific courses taken in the Master of Education programs in educational administration are designed to provide for the minimum requirements for provisional Ohio state certification as elementary school principals and secondary school principals, while completing the University program necessary for a master's degree. These master of education programs constitute the first phase of the various advanced programs in educational administration.

**Curriculum and Supervision:** The general and specific areas included in this program meet the minimum course requirements for Ohio provisional certification as a supervisor. The program is designed for those who are beginning preparation for positions in curriculum and supervision. The Master of Education program is considered the first phase of a two-year program.

**Secondary Education:** A program for secondary teachers who wish to pursue graduate study which provides a broad base of understanding of the problems of the secondary school, its curriculum, and its population.

A person pursuing this program should select a minor or joint minors representing his teaching field(s).

### PROFESSIONAL COMPETENCE PROGRAMS

Students who hold the master's degree with appropriate professional background may pursue advanced work in "Professional Competency Programs." These consist of approximately 30 semester hours of selected work planned to advance the student's competence to perform duties associated with certain

types of educational positions. The sixth year of work is now offered in Business Administration in Education, Counselor Education in Higher Education, Curriculum and Supervision, Educational Administration, Elementary Education, Guidance and Counseling in Secondary Education, Guidance in Elementary Education, Personnel Administration in Education, and Student Personnel Services in Higher Education. Descriptions of these programs are available from the Graduate Committee in Education or from a College of Education staff member in the specialty of interest of the inquirer.

### DOCTORAL PROGRAMS IN EDUCATION

Advanced preparation which may lead to the Doctor of Philosophy Degree is offered with majors in Business Administration in Education, Counselor Education in Higher Education, Curriculum and Supervision, Educational Administration, Elementary Education, Guidance and Counseling in Secondary Education, Guidance in Elementary Education, Personnel Administration in Education, and Student Personnel Services in Higher Education. Minors for the doctorate are available in these and other areas of education and in other departments of the University.

Students admitted to do work beyond the master's degree are first admitted to "Pre-doctoral Study" in education. After the equivalent of one semester's work, such students are expected to apply for admission to "The Division of Advanced Studies in Education." This admission is based upon a review of the student's qualifications, successful completion of an advanced seminar, and upon the results of certain examinations. If admitted to "The Division of Advanced Studies in Education," the student is assisted by an advisory committee in developing the remainder of his program.

Details of the other requirements for the doctorate and detailed statements about doctoral programs in education may be secured from the Graduate Committee in Education or from a College of Education staff member in the specialty of interest of the inquirer.

### ELEMENTARY EDUCATION

#### 303. ADVANCED STUDIES OF CHILDREN (3)

*Schilson, Stanger*

An intensive study of basic research in child development. Prereq., 15 hrs. Ed. or psych. or permission.

#### 310. READING LABORATORY PRACTICUM

(1 to 6)

*Cooper*

Application of developmental approach to problem cases in reading instruction—participation in diagnostic examination, parent and teacher conferences, individual procedures in tutoring, staffing of cases, and preparation of reports; weekly group discussion period (W 3, 4), laboratory sessions arranged. Prereq., permission.

411. PROBLEMS IN THE ELEMENTARY CURRICULUM (3) *Staff*  
A critical study of the basic issues and theories underlying curriculum development. Prereq., permission.

417. CURRICULUM AND PROBLEMS IN ELEMENTARY SOCIAL STUDIES (3) *Felsinger*  
To enable teachers in service to become better acquainted with the trends in the modern social studies curriculum. Prereq., permission.

418. MODERN ELEMENTARY MATHEMATICS CURRICULUM (3) *D'Augustine*  
The modern elementary mathematics curriculum with emphasis on why changes are occurring. The nature of changes as reflected from experimental programs; effect of changes on methods of teaching. Prereq., permission.

421. MODERN PROGRAMS AND PROBLEMS IN ELEMENTARY SCIENCE (3) *Ploutz, Mills*  
An advanced course to enable elementary teachers to prepare units of learning in currently developing areas of physical science, nature study, biology and earth sciences. The preparation of simple apparatus, use of teaching materials as related to trends in modern science teaching. Prereq., permission.

- 517-521. RESEARCH AND CURRICULUM IN ELEMENTARY EDUCATION (3 each) *Staff*  
Critical evaluation of the literature and recent research on objectives, content, and methodology. History of instruction, current problems and issues, recent trends and emphasis in teaching practices. Impact of dominant theories of learning and philosophies of education. Research design and methodology in scientific investigations. Prereq., permission.

517. SOCIAL STUDIES (3) *Felsinger*

518. MATHEMATICS (3) *D'Augustine*

519. LANGUAGE ARTS (3) *Cooper*

520. READING (3) *Cooper*

521. SCIENCE (3) *Mills, Ploutz*

## SPECIAL EDUCATION — ELEMENTARY

321. ORGANIZATION OF SPECIAL EDUCATION FOR EXCEPTIONAL CHILDREN (3) *Staff*  
Educational needs of those who differ markedly from normality — the slow-learning, the retarded, and the gifted, the physically handicapped; the emotionally unstable and socially

maladjusted; their characteristics and incidences. Adjustments within regular classrooms, special classes, and special schools; individual child study, classification, and follow-up.

322. CURRICULUM AND PROGRAM DEVELOPMENT FOR SLOW-LEARNING CHILDREN (3 to 9) *Staff*

325. PROBLEMS IN EDUCATION — THE SLOW LEARNER (2 to 6) *Staff*

## SECONDARY EDUCATION

333. EXTRA-CLASS ACTIVITIES IN THE SECONDARY SCHOOL (3) *Lynn*  
The scope and organization of extra-class activities in the high school and their relationship to the curriculum. Prereq., permission.

374. IMPROVEMENT OF READING IN SECONDARY SCHOOLS (2) *Cooper*  
The teaching of reading as a developmental process, with special reference to extending instruction beyond the elementary school; instructional materials and procedures for individuals and groups; adapting programs to individual differences; reading in the content fields; fostering growth in concepts; vocabulary and reading habits.

432. THE HIGH SCHOOL CURRICULUM (3) *C. Roberts*  
The high school program of studies, contributions of various subjects, theories of curriculum construction, curriculum research, and desirable steps in the reorganization of the high school curriculum. Prereq., 359.

## PROFESSIONAL LABORATORY EXPERIENCES

456. SEMINAR IN HIGHER EDUCATION (1) *Hill*  
An on-going and up-to-date treatment of significant current developments in higher education. Prereq., 450 or equiv. (Maximum credit in course, 4 hrs.)

472. LABORATORY SCHOOL PROBLEMS (2) *Staff*  
Prereq., permission.

473. SUPERVISION OF STUDENT TEACHING (2 to 6) *Staff*  
Designed to prepare students for the work of the supervising teacher in a college or university. Prereq., permission.

## GENERAL EDUCATION

358. WORKSHOP IN ECONOMIC EDUCATION (3)  
*Staff*

A study of basic economic concepts and practical economic problems with the view to their integration into the school curriculum. Prereq., permission. (Summer only.)

## 359. GENERAL CURRICULUM (3)

*Staff*  
A critical study of the public school curriculum including a review of curriculum theories, practices, and trends in grades kindergarten through twelve. Special emphasis is given to problems in curriculum development and organization. Prereq., permission.

388. CONSERVATION EDUCATION WORKSHOP (6)  
*Staff*

A field course designed primarily for elementary and junior high school teachers. Relationships between conservation and the natural sciences. Prereq., approval of adviser. (Summer only.)

## 416. READINGS AND RESEARCH IN HUMAN DEVELOPMENT (3)

*Stanger*  
Interpretation of the scientific literature on human development as related to classroom experience in kindergarten through twelfth grade. Independent projects delineating the developmental bases for understanding and solving selected educational problems. Prereq., 303 or permission.

428. ADVANCED PRINCIPLES OF TEACHING (3)  
*Staff*

A critical appraisal of research on learning and teaching. Prereq., permission.

## 450. HIGHER EDUCATION (3)

*Hill*  
A survey of the background and growth of higher education in the United States. Present status of various types of institutions will be studied. Prereq., permission.

## GUIDANCE AND COUNSELING

## 360. GUIDANCE PRINCIPLES (3)

*Staff*  
The need for guidance in the schools, the nature of guidance, and the major guidance services.

361 a,b,c. GUIDANCE AND COUNSELING PRACTICUM (1 to 3)  
*Staff*

Directed practice in counseling and other guidance and student personnel services. Prereq., 360 or 367 and permission.

a. ELEMENTARY SCHOOL

b. SECONDARY SCHOOL

c. COLLEGE AND UNIVERSITY

362. INFORMATION SERVICE IN GUIDANCE (3)  
*Hill*

The collection, evaluation, and use of occupational, educational, and related information in the guidance program. Prereq., 360 or 367.

363. INDIVIDUAL ANALYSIS IN GUIDANCE (3)  
*Green*

Use of cumulative records, case study procedures, sociometric tests, group processes, and the like in guidance. Synthesis of information about the client. Prereq., a course in measurement or equiv.; 360 or 367.

## 364. COUNSELING IN SCHOOLS (3)

*Staff*  
Basic principles of counseling in an educational context. Development of sound procedural bases for counseling and educationally oriented counseling theory. The ethics of counseling. Prereq., 360 or 367.

## 365. IDENTIFICATION AND GUIDANCE OF ABLE YOUTH (3)

*Staff*  
A comprehensive treatment of the characteristics of superior, talented, and able youth. Methods of identification of the able. Special problems of guidance and education of the able so that they may more fully utilize their talents. Lecture, readings, demonstrations. Prereq., permission.

366. GUIDANCE TECHNIQUES FOR THE ABLE (3)  
*Staff*

A special program of study and practice in testing, counseling, informational service, follow-up and group techniques with special application to the needs of able youth. Prereq., 360 or 367.

367. GUIDANCE IN ELEMENTARY SCHOOLS (3)  
*Grubb*

The need for guidance in the elementary school. The nature of guidance and of the guidance services in elementary education.

## 369. GUIDANCE AND BEHAVIORAL ASPECTS OF DISADVANTAGED YOUTH (3)

*Staff*  
The need for special attention to disadvantaged youth. Characteristics, educational, and guidance aspects of disadvantaged. Socio-economic and psychological aspects related to choice and development. Prereq., 360, permission.

## 461. WORKSHOP IN GUIDANCE (1 to 3)

*Staff*  
Prereq., 360 and permission.

462. FIELD EXPERIENCE IN GUIDANCE AND STUDENT PERSONNEL SERVICES (2 to 4)  
*Staff*

Supervised field work. Periodic campus conferences and visitations are required. Prereq., 361 and permission.

## 464. ADMINISTRATIVE RELATIONS IN GUIDANCE (3)

*Hummel*

The organization and administration of guidance, community relations, legal bases for guidance. Prereq., 360 or 367.

## 465. GROUP GUIDANCE: MATERIALS AND PROCEDURES (3)

*Grubb*

The theoretical bases for group work in guidance. Materials and teaching procedures for group work. Laboratory work in Guidance Laboratory and Materials Center. Prereq., 360 or 367.

## 567 a,b,c, 568 a,b,c. ADVANCED PRACTICUM IN GUIDANCE COUNSELING, AND STUDENT PERSONNEL SERVICES (2 to 5, 2 to 5)

*Staff*

Directed practicum for advanced students in guidance and student personnel. Major attention to counseling theory and practice. Prereq., pre-doctoral standing and permission.

- a. ELEMENTARY SCHOOL
- b. SECONDARY SCHOOL
- c. COLLEGE AND UNIVERSITY

## HISTORY AND PHILOSOPHY

## 350. THE HISTORY OF EDUCATION (3)

*Shoemaker*

Studies the agencies of education and the social forces which have conditioned them during ancient, medieval, and modern times.

## 351. THE SCHOOL IN THE SOCIAL ORDER (3)

*Shoemaker*

Education in the United States from the colonial period to the present. The social, political, economic, religious, and philosophical foundations which have conditioned the evolution of the public schools.

## 353. THE EVOLUTION OF EDUCATIONAL THOUGHT (3)

*Shoemaker*

Deals solely with the educational writings of such theorists as Plato, Aristotle, Quintilian, Montaigne, Locke, Comenius, Rabelais, Rousseau, Pestalozzi, Froebel, Herbart, and Dewey.

## 454. PHILOSOPHY OF EDUCATION (3)

*Shoemaker*

A comparison of pragmatism, idealism and realism as philosophical bases for education. Each student is helped to formulate his philosophy of education.

## 479. CONTEMPORARY COMPARATIVE EDUCATION (3)

*Ray*

A comparative study of the national systems of education with special emphasis on international cooperative programs of education viewed in terms of purposes, administration, and curriculum. Prereq., permission.

## RESEARCH AND SCIENTIFIC TECHNIQUES

## 381. EDUCATIONAL STATISTICS (3)

*Sligo*

The tabulation and graphical representation of frequency tables, measures of central tendency, percentiles and percentile curves, measures of variability, probability and the normal curve, testing statistical hypotheses, and correlation.

## 382. ADVANCED EDUCATIONAL STATISTICS (3)

*Sligo*

Nonlinear relations, partial correlation, multiple correlation and regression, various methods of correlation, and the interpretation of correlation coefficients. Practice in the use of logarithms, statistical tables, and calculating machines. Prereq., 381.

## 385. EDUCATIONAL MEASUREMENTS (3)

*Sligo*

The improvement of the essay examination, criteria for evaluating tests, teacher-made objective tests, standardized tests, elementary statistical procedures.

## 478. SEMINAR IN EDUCATION (2)

*Staff*

Advanced studies of special problems in elementary education, guidance, secondary education, and school administration. Prereq., permission.

## 483. RESEARCH IN EDUCATIONAL STATISTICS (1 to 6)

*Sligo*

An advanced course in statistics dealing with the derivation of formulae, the analysis of relationships, and the interpretation of results. Prereq., 382 and permission.

## 484. RESEARCH IN EDUCATION (1 to 6)

*Staff*

Prereq., permission.

## 488. INTRODUCTION TO GRADUATE STUDY (3)

*Staff*

Methods of research in education and the selection, planning, and evaluation of research problems. The history and purposes of graduate education. Required of all graduate students in education. Prereq., permission.

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## 591-592. ADVANCED SEMINAR IN EDUCATION (3-3)

*Staff*

Current literature and advanced research in education. Individual reports and discussion. Required of first year pre-doctoral students. Prereq., permission.

595. DISSERTATION (As recommended by dept.)

Prereq., permission.

*Staff*

## SCHOOL ADMINISTRATION AND SUPERVISION

335. WORKSHOP IN ELEMENTARY SCHOOL ADMINISTRATION (2)

*Staff*

340. SCHOOL PUBLIC RELATIONS I (3)

*Staff*

The function of school administration in public understanding of the school's work and furthering lay participation in determination of school policy.

410. ADMINISTRATION OF THE ELEMENTARY SCHOOL (3)

*Shuster*

The responsibilities of teachers and principals in administration, curriculum construction, supervision, plant management, and public relations. Prereq., 6 hrs., including 440.

412. SUPERVISION OF SCIENCE INSTRUCTION (3)

*Ploutz, Mills*

The duties of science supervisors, consultants, and department chairmen, helping teachers in the development, implementation, and evaluation of science programs in the public schools. Prereq., 446.

430. HIGH SCHOOL ADMINISTRATION (3)

*Lynn*

Same description and prereq. as 410.

440. GENERAL SCHOOL ADMINISTRATION (3)

*Staff*

An introduction to educational administration.

441. STATE, NATIONAL, AND INTERNATIONAL SCHOOL ADMINISTRATION (3)

*Ray*

The state program of education, state responsibility, educational organization, certification and tenure, national educational services, federal relations to education, national problems in education, and international relations to education. Prereq., 440.

442. SCHOOL FINANCE (3)

*Ray*

Local, state, and federal; business management in such areas as the school budget, financial reports, school purchasing, transportation, and insurance. Prereq., 440.

443. SCHOOL LAW (3)

*Ray*

The constitutional basis for education, schools and their legal setting, and school legislation and court decisions, with special reference to Ohio school law. Prereq., 440.

444. MAINTENANCE AND OPERATION OF EDUCATIONAL FACILITIES (3)

*Roaden*

Principles and practices in the administration of educational plant operations and maintenance. Designed primarily for educational administrators and directors of maintenance and operations, the course covers such areas as organization of the program; selection and training of personnel; care and repair of buildings; purchasing and handling supplies and equipment. Prereq., permission.

445. PLANNING EDUCATIONAL FACILITIES (3)

*Roaden*

Principles, practices, and problems in the administration of the building program. Includes evaluation of existing facilities; surveying needs; planning programs; developing educational specifications; selection of the architect; attaining efficiency and economy through design and construction; equipping the plant; and financing the building program. Prereq., 440.

446. SUPERVISION OF INSTRUCTION (3)

*Staff*

The principles underlying supervision and techniques which promote the growth of teachers in service. Laboratory experience in analysis of teaching situations. Prereq., permission.

447. PERSONNEL ADMINISTRATION IN EDUCATION (3)

*Krantz*

Philosophy of personnel administration, development of policies covering selection, classification, certification, tenure, contracts, in-service training programs, and placement of teaching and non-teaching personnel in education. Prereq., 12 hrs.

452. PROBLEMS IN THE BUSINESS ADMINISTRATION OF EDUCATION

*Staff*

Intensive one-week courses, each covering a phase of business administration in education. Each course consists of twenty hours of lecture and fifteen hours of laboratory activities. Prereq., permission.

- 452 a. ADMINISTRATION OF PUPIL TRANSPORTATION (1)

*Staff*

Topics covered include selection, training, and supervision of bus drivers; preparation of specifications for purchase of buses; supervision of the servicing and maintenance of buses; route scheduling; pupil control; public relations; insurance problems of transportation; school bus safety.

453. SEMINAR IN PUBLIC RELATIONS IN EDUCATION (3)

*Staff*

New concepts and specific techniques in public relations in education; public involvement in educational planning; educational involvement in community planning. Prereq., permission.

455. ADVANCED PLANNING OF  
EDUCATIONAL FACILITIES (3)*Roeden*

Designed primarily for advanced graduate students in educational administration who possess a particular interest in school plant planning. Largely oriented toward specific planning problems, the course provides opportunity for depth treatment of areas of interest to the student as well as a greater understanding of problems encountered in planning educational facilities.

## 474. TEACHER EDUCATION (3)

*Hill, Staff*

Teacher education in the United States, its history, current status, and current issues. Intended for persons planning to teach in colleges and universities which prepare teachers for the schools. Prereq., graduate standing.

548-549. ADVANCED THEORY AND PRACTICES  
IN EDUCATIONAL ADMINISTRATION  
(3-3)*Hicks*

Concepts and processes of educational administration. Administrative organization and relationships. Authority and responsibility. Prereq., permission.

551. ADVANCED BUSINESS ADMINISTRATION  
OF EDUCATION (3)*Hicks*

The role of business administration in education: principles and practices of auditing, budget preparation and control, debt service insurance, legal aspects, payroll administration, personnel administration, plant operation and maintenance, purchasing, school plant planning, and supply management. Prereq., permission.

## ENGINEERING AND TECHNOLOGY

*Robert L. Savage (dean)*

## Chemical, Civil, Electrical, Mechanical

Programs of graduate study may be formulated with majors in chemical, civil, electrical, or mechanical engineering.

The standard four-year course in engineering or its equivalent, as offered in institutions approved by the Engineers' Council for Professional Development, is a general prerequisite for graduate study. Graduates in science and other fields of engineering, whose programs have included sufficient courses in mathematics, physics, chemistry, the humanities, and the social sciences, may be accepted as graduate students. Such students must take such undergraduate courses in basic engineering subjects as the staff may require.

## 380. COLLOQUIUM (1)

*Staff*

Prereq., approval by chairman of department in which work is performed. (2nd sem., yearly.)

## 391. SEMINAR (1 to 3)

*Staff*

Prereq., approval by chairman of department in which work is performed.

## CHEMICAL ENGINEERING

*Professors H. B. Kendall (chairman),  
Mayer, Savage**Assistant Professors Baasel, Baloun,  
Collier, Throne*

Graduate students working toward a master's degree in chemical engineering are expected to take at least fifteen hours in graduate level chemical engineering courses, including the following four courses:

ChE 301 — APPLIED CHEMICAL ENGR.  
CALC. (3)ChE 401 — ADV. CHEMICAL ENGINEERING  
THERMODYNAMICS (3)ChE 450-51 — ADV. TRANSPORT  
PHENOMENA (3-3)

Students who choose to do so may also complete requirements for a minor field by selecting at least nine hours of graduate courses in other fields of engineering, or in mathematics, chemistry, physics, or materials science. All resident graduate students are expected to participate in departmental graduate seminars each semester.

Listed courses would also be suitable for a minor in chemical engineering.

Programs leading to the M.S. degree in Chemical Engineering are available for students who have received bachelor's degrees in chemistry or related fields.

301. APPLIED CHEMICAL ENGINEERING  
CALCULATIONS (3)*Staff*

Calculations involved in unsteady-state heat and mass transfer. Setting up of ordinary and partial differential equations corresponding to typical chemical engineering situations, and the methods available for their solutions, including computer and graphical techniques.

## 305. APPLIED ENGINEERING STATISTICS (3)

*Staff*

Statistical design and analysis of engineering experiments. The use of statistics to obtain the maximum information from experimental data. Prereq., permission.

## 312. UNIT OPERATIONS LABORATORY (2)

*Staff*

Laboratory practice to illustrate the principles of selected unit operations and processes and to aid students in gaining confidence in the handling of pilot plant equipment. Development of ability to devise and conduct experiments with minimum supervision, and to report results satisfactorily is stressed.



## 320. UNIT PROCESSES (3)

*Staff*  
Investigation of typical industrial chemical processes from the viewpoint of the unit steps involved. Typical inorganic and organic processes are studied. Emphasis is on application of thermodynamic and kinetic theory, and on raw material and energy sources, to the layout and design of equipment and processes.

## 330. METALLIC CORROSION (3)

*Staff*  
Electrochemical nature of corrosion; high temperature oxidation. The influence of various atmospheres, and of stress, strain and structure on corrosion. Corrosion prevention.

## 333. TRANSFORMATIONS IN METALLIC SOLIDS (3)

*Staff*  
Mechanisms and kinetics of reactions in metallic solids. Diffusion, eutectoid, precipitation, martensite and other solid reactions. Morphological and orientation changes occurring with reactions.

## 340-341. DESIGN AND INSTRUMENTATION (4-3)

*Staff*  
Project work involving chemical process design, including evaluation and extension of fundamental data by calculation, choice of operating conditions, estimation of costs, selection of equipment, and the application of automatic controls.

## 350. INTRODUCTION TO TRANSPORT PHENOMENA (3)

*Staff*  
Introduction to heat, mass, and momentum transfer from a theoretical basis. The presentation of boundary-layer theory and its comparison with other theoretical and semi-theoretical approaches.

## 390. SPECIAL INVESTIGATIONS (1 to 3)

*Staff*  
Individual or small group work, under guidance, in research or advanced study in a particular field of chemical engineering. Maximum credit, 6 hours. Prereq., permission from chairman.

## 401. ADVANCED CHEMICAL ENGINEERING THERMODYNAMICS (3)

*Staff*  
Advanced thermodynamics study of chemical engineering processes, pure materials, and mixtures. Criteria of equilibrium for homogeneous and heterogeneous systems. Correlation and estimation of properties. Thermodynamics of irreversible processes.

## 420. ADVANCED PROCESS THEORY (3)

*Staff*  
The use of chemical engineering kinetics and the principles of similarity and model theory in the scale-up of pilot plants. Special emphasis on the use of chemical similarity in reactor and plant design.

## 440. PROCESS DYNAMICS (3)

*Staff*  
Systems analysis. The use of automatic control in chemical processes. Determination of the stability of processes containing feedback.

## 445. ADVANCED CHEMICAL ENGINEERING OPERATIONS (3)

*Staff*  
Selected topics from absorption and extraction; multicomponent, azeotropic, and extractive distillation; non-ideal separation processes.

## 450-451. ADVANCED TRANSPORT PHENOMENA (3-3)

*Staff*  
Development of heat, mass, and momentum transfer from a theoretical basis. The presentation of boundary layer theory and its comparison with other theoretical and semi-theoretical approaches.

## 481. RESEARCH IN CHEMICAL ENGINEERING (1 to 4)

*Staff*  
490. SPECIAL TOPICS IN CHEMICAL ENGINEERING (1 to 3)

*Staff*  
Advanced study in a particular field of chemical engineering.

## 491-492. READINGS AND SEMINAR (1-1)

*Staff*  
Assigned readings and special reports in selected areas of chemical engineering theory and practice.

## 495. THESIS (1 to 6)

*Staff*

## CIVIL ENGINEERING

*Professor Shermer (chairman)*

*Associate Professors Badger, Olson*

*Assistant Professors Kaneshige, Russ, Wang*

*Instructor Fletcher*

In Civil Engineering, master's degrees may be earned in the fields of Solid Mechanics, Fluid Mechanics, Soil Engineering, Sanitary Engineering, Structures, or Transportation. In addition to courses offered by the department in these areas, many courses offered by other departments may satisfy the requirements of the student's major. For example, a student majoring in mechanics might do some of his work in the Departments of Mechanical Engineering or Physics, and a student majoring in Sanitary Engineering might do some of his major work in chemistry or bacteriology. Also, in the major field, special work not covered by formal courses may be done under the guidance of an instructor. With the advice and approval of faculty advisers, all programs are arranged by the students to suit their individual needs.

An acceptable program outline might be as follows:

Major courses	15 credits
Mathematics	9 credits
Other major or minor courses	3 credits
Research and thesis	5 credits

Courses offered are:

### 313. ADVANCED SURVEYING PROBLEMS (2)

*Staff*

Advanced problems in plane surveying and problems in geodetic surveying. 1 lec., 2 lab.

### 314. PHOTOGRAMMETRY (3)

*Staff*

Equipment and methods used in aerial photography and land measurement.

### 324. ADVANCED FLUID MECHANICS (3)

*Olson*

Inviscid flow theory, conformal mapping, mechanics of fluid resistance, laminar and turbulent flow in ducts and boundary layers. 3 lec. (1st sem.)

### 325. ADVANCED SOIL MECHANICS (3)

*Wang*

Advanced treatment of theories and principles of soil mechanics. Shearing strength, stress distribution, seepage, bearing capacity, retaining wall pressures, slope stability, consolidation and settlement analysis. 2 lec., 3 lab. (1st sem.)

### 326. ADVANCED MECHANICS OF MATERIALS (3)

*Adams*

Advanced treatment of theories of failure, stresses and strains at a point, cross, shear, unsymmetrical bending, curved beams, torsion, thick-walled cylinders, energy methods. 3 lec. (1st sem.)

### 327. ADVANCED FOUNDATION ENGINEERING (3)

*Wang*

Advanced substructure analysis and design to meet various soil conditions. 3 lec. Prereq., 325. (2nd sem.)

### 329. THEORY OF STABILITY (3)

*Adams*

Buckling of columns, beam columns, rings, and plates. (1st sem.)

### 332. ADVANCED STRUCTURAL DESIGN (3)

*Shermer*

Design of indeterminate structures. Modern design concepts and principles as applied to various construction materials. 3 lec., Prereq., 340. (2nd sem.)

### 335. EXPERIMENTAL STRESS ANALYSIS (3)

*Staff*

Theory and use of strain gages, stress coats, deflection gages and photoelastic equipment. 2 lec., 2 lab. Prereq., 326. (2nd sem.)

### 340. ADVANCED STRUCTURAL THEORY I (3)

*Shermer*

Analysis of indeterminate structures by both classical and modern methods, analysis of multistory bents, arches, closed rings, and frames with variable cross-sections, plastic theory and design. (1st sem.)

### 341. ADVANCED STRUCTURAL THEORY II (3)

*Shermer*

Continuation of 340. Relaxation methods, matrix methods, shell structures. 3 lec. Prereq., 340. (2nd sem.)

### 349. WATER TREATMENT (3)

*Kaneshige*

Advanced study of water treatment theory. Design of treatment units. Practice in control methods. 2 lec., 2 lab. (1st sem.)

### 350. ADVANCED WASTE-WATER TREATMENT (3)

*Kaneshige*

Advanced study of waste-water treatment theory. Design of treatment units. Practice in control methods. 2 lec., 2 lab. (2nd sem.)

### 361. TRAFFIC ENGINEERING (3)

*Staff*

Principles of highway and street traffic movements, traffic analysis and control as affecting the geometric design of roadways and parking facilities. 2 lec., 2 lab. (2nd sem.)

### 362. ADVANCED PAVEMENT DESIGN (3)

*Wang*

Stability of highway embankments, compaction of soils and subsidence, design of flexible and rigid highway and airport pavements, subgrade drainage, subgrade bearing capacity, frost action and related phenomena. 3 lec. Prereq., 325. (2nd sem.)

### 363. SOIL STABILIZATION (3)

*Wang*

Requirements for and factors affecting soil stability, methods of soil stabilization, design and testing stabilized soils. 2 lec., 3 lab. Prereq., 325. (2nd sem.)

### 364. BITUMINOUS PAVING MATERIALS (3)

*Wang*

Types, constituents, chemical behavior, tests, specifications, and uses of bituminous materials and aggregates in pavements. Theory and practice in design and manufacture of bituminous paving mixtures and construction of bituminous pavements. 2 lec., 3 lab. (1st sem.)

### 390. SPECIAL INVESTIGATIONS (1 to 3)

*Staff*

### 428. THEORY OF ELASTICITY (3)

*Adams*

Theory of stress and strain; generalized Hooke's Law; equations of equilibrium and compatibility; plane stress and plain strain problems; energy principles and variational methods; finite-difference approximations and the application of digital computer programming. 3 lec. Prereq., 326. (2nd sem.)

481. RESEARCH IN CIVIL ENGINEERING (1 to 4) *Staff*

495. THESIS (As recommended by dept.) *Staff*  
Prereq., permission.

## ELECTRICAL ENGINEERING

*Professors Gamble, Quisenberry (chairman)*  
*Associate Professors Fahey, Hoffee,*  
*McFarland, Miro, Selleck, G. E. Smith*  
*Assistant Professors Chen, Meaders*  
*Lecturer Cartland*  
*Instructor Essman*

Graduate study leading to both the master's degree and the doctorate is offered in electrical engineering. Prospective students for these degrees should have completed the requirements for a baccalaureate degree with a major in electrical engineering. Students who lack such preparation are expected to make up deficiencies in addition to the normal graduate program of courses.

Courses in related fields may be included in the graduate program, as for example, chemistry, physics, mathematics, and other branches of engineering. The graduate program of study is individually planned for each student after a careful review of his experience and education.

The following courses are recommended for the first nine hours of graduate study: EE 335, EE 470 and Math 314. Courses in the 300 level required for the bachelor's degree at Ohio University may not be taken for graduate credit nor may a doctoral program of study include more than 20% of the credit hours at the 300 level.

302. COMMUNICATION ENGINEERING (3) *Staff*

A unified approach to the study of communications stressing the principles common to all information transmission systems; measurement of information; Fourier Series; Fourier Integral; frequency spectrum; time response; amplitude modulation (double and single sideband); frequency modulation; sampling theory; pulse modulation; noise and comparison of modulation systems. 3 lec.

305. ADVANCED LABORATORY I (1) *Staff*

306. ADVANCED LABORATORY II (2) *Staff*

310. ELECTRONIC ENGINEERING (3) *Staff*

This course is the third of a sequence of courses devoted to the study of electronic circuits. More sophisticated techniques are used to illustrate the behavior of practical circuits. Attention is placed on less conventional devices and circuits with emphasis on device limitations and practical design.

320. ENGINEERING ANALYSIS (3) *Staff*  
Application of mathematical methods to engineering problems. 1-d equations, phase plane methods, Fourier transforms, probability and elementary statistics, energy methods. 3 lec.

321. ULTRA HIGH FREQUENCY ENGINEERING (3) *Staff*

A study of theory and techniques associated with ultra high frequency systems, circuit elements, generation and synchronization of special waveforms, oscillators, amplification and transmission. 3 lec.

322. MICROWAVE THEORY AND DEVICES (3) *Staff*

Generation, transmission, amplification, and radiation of electromagnetic energy in the frequency range 300 mcs upwards. Discussion of klystrons, magnetrons, waveguides, strip-lines, resonators, masers, lasers, and special antennas. 3 lec.

323. ELECTROMAGNETIC PHENOMENA AND DEVICES II (3) *Staff*

A treatment of generation, transmission, radiation, propagation, amplification, and detection of electromagnetic energies as a function of frequency. Intended to provide a synoptic study of evolutionary effects observed as frequency is varied from DC to beyond visible. Emphasis on microwaves and coherent light portions of the spectrum and associated devices. 3 lec.

324. RADAR SYSTEMS (3) *Staff*

Introduction to microwave radar including system design. Discussion of radar transmitters, receivers and antennas. Special topics of noise, propagation, CW radar, monopulse, and doppler radar are considered. 3 lec.

325. ACOUSTICAL ENGINEERING (3) *Staff*

Propagation of sound energy in free space and in enclosures. Analysis and measurements of acoustical systems; characteristics of electrotransducers. Design of horns and enclosures. A study of acoustic absorption and reflection in auditoriums. 2 lec., 2 lab.

330. STATISTICAL ANALYSIS OF SYSTEMS (3) *Staff*

Stationary time series, power density spectra, correlation functions, mean square error. Optimization of network in the presence of noise. Applications of probability theory and sampling theory. 3 lec. Prereq., 320.

## 331. SERVOMECHANISMS (3)

*Staff*

Automatic controller theory and analysis including the study of error-rate damping, integral control. Stability. Conventional compensation. Introduction to pole-zero control synthesis techniques.

## 332. CONTROL OF ELECTRICAL MACHINERY (3)

*Staff*

Magnetic and electronic motor controllers, including a study of control theory and applications to given problems. 3 lec.

## 333. INTRODUCTORY SYSTEM ANALYSIS (3)

*Staff*

Signal representation; circuit models of mechanical and electrical systems, and circuit analysis; analysis of feedback systems. 3 lec.

## 334. CONTROL THEORY (3)

*Staff*

Linear vs. non-linear control systems. Specification of performance. Characterization of systems. Time varying parameter systems. Optimization and sampling in control.

335. ADVANCED ENGINEERING  
ELECTROMAGNETICS (3)*Staff*

Application of Maxwell's equations. Boundary-value problems, conformal transformations, relaxation techniques, generalized circuits, interaction of charged particles with electric and magnetic fields. 3 lec.

336. RADIATION AND PROPAGATION OF  
ELECTROMAGNETIC FIELDS (3)*Staff*

Plane waves in dielectric and conducting materials to include atmospheric and ionospheric media. Radiation, antennas and arrays, propagation of electromagnetic fields as pertaining to radar, communications, and research. 3 lec.

337. INTRODUCTION TO PLASMA DYNAMICS  
(3)*Staff*

Elementary properties and processes of ionized gases and conducting fluids. Selected topics including conductivity, transport phenomena, creation of plasma, applications and experiments. 3 lec.

## 342. SYMMETRICAL COMPONENTS (3)

*Staff*

Circuits analysis by symmetrical components. Representative of unbalanced polyphase currents and voltages by component symmetrical sets; solutions of faults on power systems. 3 lec.

343. ELECTRICAL TRANSMISSION OF POWER  
(3)*Staff*

Economic and electrical principles of transmission of electrical power, line equations and calculations, hyperbolic solution of long lines, insulation and protection against transients, mechanical principles and practical line construction. 3 lec., Prereq., 342.

## 344. ELECTRICAL DESIGN (3)

*Staff*

Fundamental design relations of electrical machinery and predetermination of performance. 3 lec.

345-346. PROBLEMS IN ADVANCED A.C.  
MACHINERY (3)*Staff*

Problems taken up deal with transient conditions in alternators, motors, and transformers. Applications of the methods of symmetrical components to unbalanced operating conditions. 2 lec., 2 lab.

351. AUTOMATIC PROCESS CONTROL AND  
INSTRUMENTATION (3)*Staff*

Dynamic behavior of process control systems: pneumatic, hydraulic, chemical, electromagnetic. Measurements of transducers and feedback systems. Electronic data conversion and storage systems. 2 lec, 2 lab arranged.

361. SEMINAR IN ELECTRONIC ANALOG  
COMPUTERS (1)*Staff*

A study of the basic principles of analog computation. System response determined by means of the analog computer.

## 362. DIGITAL SYSTEMS (3)

*Staff*

Topics such as: Digital systems, binary notation and devices, boolean algebra, Karnaugh maps, register operations, introduction to sequential networks, examples of sequential systems, and coding. 3 lec.

370. FOUNDATIONS OF ELECTRICAL NETWORK,  
THEORY (3)*Staff*

Topics such as: elementary matrix algebra, elementary linear oriented graph theory, incidence, circuit and cut-set matrices, characterization of the elements of a graph, primary secondary systems of equations, two terminal R graphs, three terminal R graphs, Four terminal R graphs, and N terminal R graphs (passive) 3 lec.

## 371. NETWORK SYNTHESIS I (3)

*Staff*

A study of imittance functions; leading to the realization of positive-real functions as impedances or admittances of two-terminal passive networks. 3 lec.

380. SOLID STATE DEVICES I (3) *Staff*  
 Crystal structure, electronic properties of conductors, semi-conductors and insulators from the quantum approach; solid-state devices. 3 lec. Not open to students taking Phys. 360.
381. SOLID-STATE DEVICES II (3) *Staff*  
 Continuation of EE 380 with emphasis upon engineering properties and applications of devices. 3 lec. Prereq., EE 380 or Phys. 360.
390. SPECIAL INVESTIGATIONS (1 to 4) *Staff*  
 Assignments in special areas of interest. Except in unusual cases, these investigations are experimental in nature. Prereq., permission of advisor.
401. ELECTRICAL STATION DESIGN (3) *Staff*  
 The application of economic principles to the problems of electric generating station design, selection of apparatus, balancing initial and subsequent costs, interrelation of the mechanical and electrical elements of design. 3 lec.
403. ANALYSIS OF ENGINEERING PROBLEMS (3) *Staff*  
 The development of basic philosophy to the solution of engineering situations. The modern techniques of optimization as the search and definitions for a better solution are studied. The methods are applied to a wide range of non-complex and practical analysis. A comparison is made of the applicability and adaptability of empirical and theoretical analyses in linear and non-linear situations. Formulation of the concept of trade-off studies for parameter value selection. The fundamentals of engineering probability and statistics as aids to decision-making and value standards such as reliability. 3 lec.
404. NON-LINEAR ANALYSIS (3) *Staff*  
 Introduction to the steady-state and transient analysis of physical systems containing non-linear elements. Discussion of analytical, numerical, and graphical methods. Analysis of singular points, stability and non-linear control systems. 3 lec.
405. SYSTEM STABILITY STUDIES (3) *Staff*  
 Studies of technical problems pertaining to power systems. Both synchronous and asynchronous loadings are considered. Maximum use is made of digital computer techniques and matrix algebra. 3 lec. Prereq., 342.
406. ELECTROMECHANICAL SYSTEMS (3) *Staff*  
 A theoretical treatment on electromechanics. Variational method based on Hamilton's Principle. Dynamics of transducers. Generalized machine. Space harmonic analysis. 3 lec.
410. NETWORK SYNTHESIS (3) *Staff*  
 Realizability and synthesis of driving point impedance; synthesis for prescribed transfer functions, and for a prescribed time response. 3 lec.
411. NETWORK SYNTHESIS II (3) *Staff*  
 Properties of four-terminal networks. Realization methods. Approximation functions and scaling. 3 lec. Prereq., 371 or 410.
420. CONTROL SYSTEM SYNTHESIS (3) *Staff*  
 Signal flow diagram theory, return difference and sensitivity synthesis of active and passive networks, control systems with compensation networks synthesized from the open loop and fixed elements transfer functions. 3 lec. Prereq., 331.
430. SYSTEMS THEORY (3) *Staff*  
 Topics such as: Vector and matrix formulation of differential equations, state space approach, multivariable systems, the optimization problem, the optimality and maximum principles, decision making under uncertainty, and stochastic processes. 3 lec. Prereq., 470, 420, and consent. 420 may be taken simultaneously.
436. ADVANCED ELECTROMAGNETIC FIELD THEORY (3) *Staff*  
 Solution to wave equations by analytical methods. Conformal transformations applied to solve Laplace's equation. Duality equivalence principle. Green's functions and application of perturbation and variational techniques. 3 lec. Prereq., 335 or permission.
437. ADVANCED PLASMA DYNAMICS I (3) *Staff*  
 Study of properties of partially and fully ionized gases from particle point of view. Collision-free plasmas. Boltzmann distribution theory. Oscillations in plasmas. 3 lec. Prereq., 335.
438. ADVANCED PLASMA DYNAMICS II (3) *Staff*  
 Continuation of Advanced Plasma Dynamics. Transport phenomena. Radiation from plasmas. Magnetohydrodynamic approximations. Confinement and stability. Production and heating of plasmas. 3 lec. Prereq., 437.

## 439-440. WAVE INTERACTIONS IN NON-LINEAR MEDIA I-II (3-3)

*Staff*

The theory of elementary interactions in dielectrics induced by intense, coherent sources such as a laser. The theory is applied to quantum electronic devices of current interest in applications and research. 3 lec., Prereq., permission.

## 451. OPTIMIZATION OF ELECTRICAL ENGINEERING SYSTEMS (3)

*Staff*

Selected topics from the fields of dynamic programming, Markov processes, and general optimization and/or satisfying (optimization under economic constraint) of electrical-electronic couples. 3 lec. Prereq., 403 or permission.

## 452. DIGITAL AND SAMPLE DATA CONTROL (3)

*Staff*

Topics such as: Digital controls systems, digital to analog and analog to digital converters, pulse data control, interpolation, direct digital control, other numerical control techniques, holding and sampling, difference equations, Z transform and modified Z transform, stability and compensation, non-linear sampled data control, optimum digital control. 3 lec. Prereq., 430 and 461 or by instructor's consent.

## 453. CONTROL SEMINAR (3, 6, or 9)

*Staff*

Topics such as: Adaptive systems, self-organizing systems, computer control systems, inertial guidance, statistical design of control systems, optimum digital control, and advanced electromechanical control. 3 lec. Prereq., 430 or equivalent and instructor's consent.

## 454. NON-LINEAR CONTROL (3)

*Staff*

Topics such as: Non-linear differential equations, review of graphical techniques, the phase plane, the describing function technique stability of non-linear systems-Liaponov functions, Pontriagin maximum principle, optimum switched system, and bang-bang control. Prereq., 430, 404, or by instructor's consent.

## 455. MODERN OPTIMIZATION OF ENGINEERING SYSTEMS (3)

*Staff*

Development of concept, conceptual design, and major function analysis of large complex systems. Techniques for optimizing traffic handling of information, computer control size and system operability. Comparative studies and desired optimization characteristics for information and energy resources management. Comparative optimization for various operational modes. This relationship of reliability to product effectiveness for complex systems. Optimization techniques applied to off-design performance prediction and level selection. The generalized problem of optimization for design synthesis and analysis. 3 lec. Prereq., 403 or permission.

## 461. COMPUTER DESIGN (3)

*Staff*

Logical design of general and special purpose digital computers. The emphasis is mainly on the logical-equation method of implementing computer systems electronically. A general knowledge of the basic circuit blocks is presupposed. 3 lec.

## 462. ADVANCED DIGITAL CIRCUITS (3)

*Staff*

A study of the various individual circuits making up the complex of a modern solid-state digital computer. Emphasis is placed on pulsed active circuits and on their interaction with each other and with other circuits and circuit elements involved in their logical interconnection. 3 lec.

## 463. ADVANCED LOGICAL DESIGN (3)

*Staff*

Topics such as: Review of fundamentals concepts, multiple output logical nets, symmetric functions, symmetry classes, monotonic functions, three value algebras, matrix approach to logical design, synchronous sequential nets, racing hazards, and reliability. 3 lec. Prereq., 461.

## 470. LINEAR NETWORK THEORY (3)

*Staff*

Topics such as: Matrix algebra and elementary topology, frequency domain analysis, signal-flow graphs and flow graphs, properties of two-part networks, and analytic properties of network functions. 3 lec.

## 472. NETWORK TOPOLOGY (3)

*Staff*

Topics such as: Fundamental concepts in linear graph theory, matrix representation of linear graph, properties of incidence, circuit, cut-set matrices, concept of duality, general derivation of node and mesh equations, topological formulas for linear lumped networks, application to analysis and synthesis of communication nets. 3 lec. Prereq., 470.

## 481. RESEARCH IN ELECTRICAL ENGINEERING (1 to 4)

*Staff*

Prereq., 14 hours, permission.

## 491-492. ADVANCED SEMINAR IN ELECTRICAL ENGINEERING (1-1)

*Staff*

Topics of general interest to all graduate students in Electrical Engineering. Prereq., permission.

## 495. THESIS (As recommended by dept.)

Prereq., permission.

## 581. DOCTORAL RESEARCH (1 to 6)

Prereq., 15 hours or permission.

595. DISSERTATION (As recommended by dept.) Prereq., permission.

*Staff*

## MECHANICAL ENGINEERING

*Professor P. H. Black (chairman)*

*Associate Professors Adams, Hicks*

*Assistant Professors Asfahl, Beale, Sweeney, Williams*

In mechanical engineering the Master of Science degree is offered in the fields of mechanical design, thermodynamics, and industrial engineering. Courses for the minor are usually in other areas such as mathematics, physics, or an engineering area other than the major area.

The program for the major field should total at least 18 semester hours. The minor field makes up the remainder of the program, with a minimum of nine semester hours, to make a total of at least 27 semester hours.

A thesis is required in addition to the course requirements and is generally one of the following types: experimental investigation, design, or analytical investigation.

304. MECHANICAL DESIGN II (3)

*Sweeney*

Application of mechanics, mechanism, materials, and mechanical processes to the design of complete machines and sub-assemblies. Emphasis is on creative design. 6 lab.

314. HEAT TRANSFER (3)

*Hicks*

Basic concepts of conduction, convection, and radiation; steady and transient conditions; film coefficients; dimensional analysis; and heat exchanger design. (2nd semester, yearly.)

323. THERMODYNAMIC ANALYSIS (3)

*Hicks*

An analytical study of gas and vapor power cycles including reheat and/or regeneration. Fluid flow in rotating machines. Discussion of effectiveness and availability. Various refrigeration cycles. (1st semester, yearly.)

324. GAS DYNAMICS (3)

*Beale*

One dimensional flow of ideal gases, Isentropic flow, shock, heat transfer and friction. Application to propulsion systems.

370. INDUSTRIAL PLANT DESIGN (3)

*Staff*

Semester report covering complete design of an industrial plant for manufacturing a specific product. Includes market survey, manufacturing planning, plant layout, organization and financial analysis. Prereq., Mgt. 321 and/or with Mgt. 302.

371. MODELS IN OPERATION RESEARCH (3)

*Williams*

A study of the basic mathematical models commonly used in Operations Research with particular emphasis on their application and structure. Includes: Game Theory, Inventory Analyses, Mathematical Programming, Queuing Theory, Replacement Analyses and Sequencing. Prereq., Ch.E. 305.

- 384,385. PROBLEMS IN THERMAL MACHINERY (4,4)

*Beale*

Current problems in thermal energy conversion: internal-combustion engines, refrigeration, thermo-electric devices, gas turbines, rockets. Emphasis on individual reading and research. Prereq., permission.

388. ENGINEERING AND TECHNOLOGICAL DEVELOPMENT (3)

*Sweeney*

A study of the origin and evolution of engineering as related to technological progress of our society. Attention is also given certain social, economic, and political aspects as they influence the rate of technical development. Prereq., permission.

390. SPECIAL INVESTIGATIONS (1 to 3)

*Staff*

Prereq., permission.

392. ADVANCED MACHINE DESIGN (3)

*Black*

Advanced problems in the design and analysis of machine members including consideration of stress propagation, stress analysis, fatigue and creep, residual stresses, Castigliano's theorem, and graphical analysis. Prereq., 303, permission.

393. LUBRICATION AND FRICTION (3)

*Sweeney*

Derivation of Reynold's equation and its application to bearings and gear teeth; load capacity and thermal equilibrium. Boundary lubrication, lubricant composition, surface finish, bearing materials and bearing performance. Prereq., permission. (1st semester, yearly.)

394. MECHANICAL VIBRATIONS (3)

*Adams*

The characteristic phenomena of mechanical vibrations encountered in machines and structures and their quantitative investigation. Simple-harmonic motion; free, transient, and forced vibration; application of phase-plane methods; damping effects; electrical analogies and mobility; Laplace Transforms, principles of isolation of vibration; systems of several degrees of freedom; analog computation. 2 lec., 2 lab.

## 395. ADVANCED THERMODYNAMICS (3)

*Beale*

Thermodynamic properties and principles as explained by the nature of atoms and molecules, statistical mechanics and quantum theory. Equilibrium, free energy and irreversible processes and their application to engineering. Prereq., permission.

## 410. ADVANCED VIBRATION ANALYSIS (3)

*Adams*

A study of the theory of vibrating systems and of the applications of this theory to mechanical and structural design. Lumped parameter systems (of two degrees-of-freedom and greater), continuous systems such as beams and plates, earthquake and shock analysis. Prereq., 394 or permission.

## 412. ADVANCED HEAT TRANSFER (3)

*Olson*

An introduction to advanced analysis in conduction and convection heat transfer; hydrodynamic and thermal boundary layers in forced and free convection. Prereq., 314, CE 324, or permission.

## 481. RESEARCH IN MECHANICAL ENGINEERING (1 to 4)

*Staff*

Prereq., permission.

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## ENGLISH

(Linguistics—see page 48)

*Distinguished Professors Kendall, Summers  
Professors Culbert, King, Stone, E. Thompson,  
Whan (chairman)*

*Associate Professors Holmes, McDonnell,  
Purdum, Swardson, Wells*

*Assistant Professors Bottorff, Butterworth,  
Fieler, Heidtmann, Jones, Katranides, Knies,  
Marks, Roe, J. Thompson*

*Lecturers Hemley, Matthews, Rogers, Schmidt,  
Tevis*

## ENGLISH LANGUAGE AND LITERATURE

The program in English Language and Literature is divided into three phases: the masters, the doctoral applicancy, and the doctoral candidacy. The student desiring the masters as a terminal degree will follow the same masters program as the student seeking the Ph.D.

## ADMISSION

For admission to graduate work in English the applicant should present at least 18 hours of work in literature and submit evidence of having completed 2 years of college level

language study. Applications for admission to graduate work in English will also be considered from those who have had extensive training in related fields. The language requirement may be met by examination as mentioned below.

All applicants for admission should, if possible, take the Graduate Record Examination (including the advanced test in Literature) and submit their scores. If a graduate student has been admitted without having taken the Graduate Record Examination, he must take this test the first time it is offered at Ohio University after he has enrolled in graduate work.

## THE MASTERS

## PROGRAMS

In addition to the regular masters program stressing the historical-critical study of English and American literature, the Department offers the masters degree in Creative Writing and in the Internship Program. Details of these programs are available in the English Department.

## REQUIREMENTS

1. Any candidate for the Master of Arts degree in English who has successfully completed the first two years of French, German, Russian, Italian, Spanish, Latin or Greek at the college level will be considered to have satisfied the departmental language requirement.

Any candidate who has not so satisfied the requirements must, before receiving the degree, demonstrate his ability to read either French or German by either:

- a. passing a departmental reading examination in one of the two languages or
- b. passing two semesters of the graduate reading course in one of the two, it being understood that the course carries no credit toward graduation.

2. Each student must take and pass the *Masters Examination*, a written examination to be taken at the beginning of a student's second full semester of graduate work, focused on three works (a poem, a novel, a play, a work of criticism, or some other significant literary production).

3. Each student will include in his M.A. program a distribution of courses as recommended by his advisor.

## DOCTORAL APPLICANCY

After receipt of the masters degree, the student may apply to the Graduate Committee for admission to advanced graduate study. His application will be considered in light of (1) his academic performance in the masters program, particularly in his proseminar or on his thesis; (2) the recommendation of his major professor or professors; (3) the evidence which he has given of becoming a successful teacher of English. If accepted for



graduate study, he becomes a "Doctoral Applicant." He will remain an applicant until he has fulfilled the following requirements:

1. His foreign language requirements as described by the Graduate College.
2. Six hours in the English language (English 405, Introduction to Old English, and English 402, English Language I).
3. An area of concentration comprised of a number of hours to be determined by the student's major advisor, including at least one seminar, English 570, in the area. The concentration may be in a major period of English or American literature, the English language, or in comparative literature of a period with major emphasis upon either English or American literature.
4. The minor: the applicant may (a) choose to follow a strong minor (9 hours) in another department and make appropriate adjustments in his work in English, or he may (b) elect to submit a minor in Old English literature and the English language (i.e., 406, Old English Poetry, and 403, English Language II, in addition to #2 above), or he may (c) submit a minor in another literature by passing the Ph.D. language examination and taking six hours of graduate course work in the literature of that language.
5. Other course work as called for by his program of study as described below.
6. An oral and written examination, in depth, over his area of specialization and two related areas as designated by his advisor.
7. A satisfactory prospectus for his dissertation.

### DOCTORAL CANDIDACY

In this final phase of his work, the candidate will complete his dissertation. The committee recommends that the dissertation be kept within a 150 page limit whenever possible.

In lieu of the traditional oral examination the candidate will deliver a 60-minute public lecture on some aspect of his dissertation and will lead a discussion upon his work.

NOTE: With the exception of English 315, 316 (applicable to linguistic program only), English 369, 370 (restricted to selected advanced undergraduates and graduates), and English 393, 394 (creative writing seminar) graduate students will be expected to take courses numbered 400 or above.

### 369-370. COLLOQUIUM (3)

*Staff*

Specific interdisciplinary problems to be assigned each semester. (Each semester.)

### 393-394. CREATIVE WRITING SEMINAR (3)

*Matthews, Tevis, Schmidt*

Criticism of manuscripts and discussion of problems of form. Prereq., 6 hours of creative writing, permission of the instructor. Admission only in the first semester, except for unusual reason. (Yearly.)

### 402. ENGLISH LANGUAGE I (3)

*Roe*

An historical survey of the sounds, inflections, syntax and vocabulary of Old and Middle English, with particular emphasis upon the language of Chaucer. Prereq., English 405. (1st semester, yearly.)

### 403. ENGLISH LANGUAGE II (3)

*Roe*

An historical survey of the sounds, inflections, syntax and vocabulary of English from 1500 to the present, with particular emphasis upon the language of Shakespeare. Special development of the English language in the United States. Prereq., English 402 or equivalent. (2nd semester, yearly.)

### 405. INTRODUCTION TO OLD ENGLISH (3)

*Staff*

Studies in the language structure. Translation of selected prose. (1st semester, yearly.)

### 406. OLD ENGLISH POETRY (3)

*Staff*

Translation and criticism of Old English Verse. Prereq., 405. (2nd sem., yearly.)

### 412. CHAUCER (3)

*Heidtmann*

Intensive study of Chaucer and his times. Problems in Chaucerian scholarship. (1st sem., yearly.)

### 424. SHAKESPEARE (3)

*McDonnell*

Intensive study in specific critical and historical problems. (2nd sem., yearly.)

### 432. MILTON (3)

*Swardson*

Critical and historical studies in Milton. (1st sem., yearly.)

### 450-451. PROSEMINAR IN LITERATURE (3-3)

*Staff*

The proseminar is a two semester study, research, and writing program; the first semester will consist of a comprehensive reading into the subject matter area of the proseminar and investigation into the nature of literary problems relevant to this area and the selection of those problems appropriate to graduate writing. The second semester of the proseminar will be largely concerned with the writing of papers comparable in scope to the master thesis or scholarly papers. (Sections as required, each semester.)

## 469. STUDIES IN LITERATURE (3)

Advanced study of a period or of some aspect of a period (a movement, a genre, author, etc.) of English or American literature. These subject matter courses are designed to supplement undergraduate training and to provide intensified training in areas of concentration. The following will be scheduled regularly:

- a. Medieval (Spring) (3)  
*Butterworth, Roe, Heidtmann*
- b. Renaissance (Fall) (3)  
*Fieler, McDonnell, Whan, Swardson*
- c. Neo-Classic (Fall) (3)  
*Jones, Purdum*
- d. Romantic and Victorian (Fall, Spring) (3)  
*King, Rogers, J. Thompson, Knies*
- e. Twentieth Century (Fall, Spring) (3)  
*Marks, Summers, E. Thompson, Wells*
- f. American (Fall, Spring) (3)  
*Holmes, Bottorff, Stone, Wells*
- g. Criticism (Fall) (3)  
*E. Thompson*

## 473. STYLISTICS (3)

*Summers*

Problems in the description and analysis of prose style. Prosodic theory. Literature and its writers. (2nd sem., yearly.)

## 475. THEORY OF LITERATURE (3)

*E. Thompson*

Investigations into the nature of literature and the problems of practical literary criticism. (1st sem., yearly.)

## 491-492. MASTERS SEMINAR (1-1)

*Staff*

Problems in the teaching of college English. (Yearly.)

## 495. THESIS (As recommended by dept.)

*Staff*

The masters thesis is generally elected for three or four hours credit.

## 570. SEMINAR IN LITERATURE

*Staff*

Study of a period of English or American literature with emphasis on scholarship, bibliography, and research methodology. To include preparation and class presentation of long research-critical papers. Each student will take a seminar in the period in which he plans to write his dissertation. The following will be regularly scheduled:

- a. MEDIEVAL (3)
- b. RENAISSANCE (3)
- c. NEO-CLASSIC (3)
- d. ROMANTIC AND VICTORIAN (3)
- e. TWENTIETH CENTURY (3)
- f. AMERICAN (3)

## 581-582. PROBLEMS IN RESEARCH (3-3)

*Kendall*

Designed for students with considerable background in the area being studied. (Yearly.)

## 595. DISSERTATION (As recommended by Department)

*Staff*

Prereq., permission.

## LINGUISTICS

The linguistics courses listed below are designed to supplement study in related areas and to form the basis for advanced degree programs in linguistics now being formulated.

The organization and administration of the linguistics program is supervised by the Committee on Linguistics. Although this Committee is a committee of the English Department, it is an interdisciplinary organ whose members represent the linguistic interests of a number of interrelated fields: English, Modern Foreign Languages, Speech, Psychology, Sociology, Mathematics, and International Studies.

## FACULTY

The nucleus of the linguistic theory courses is offered by scholars appointed in the English Department who hold advanced degrees in structural and general linguistics. Other courses in the linguistics program are offered by faculty members in related disciplines who are specialists in a particular area of linguistics.

## ADMISSION

The following are the requirements for work in linguistics:

1. An applicant must meet the general requirements for entrance, as set forth by the Ohio University Graduate School.

2. Although the Committee on Linguistics and the English Department make no restrictions on an applicant's undergraduate major or minor fields, they highly encourage applicants with degrees in the following fields: English, Modern Foreign Languages, Anthropology, Speech, Psychology, Mathematics, Classical Languages, Sociology.

## 315. INTRODUCTION TO LINGUISTICS (3)

*Staff*

The history and development of linguistics and the basic concepts used in linguistic analyses. To include phonetics, phonemics, morpho-syntax, transcribing, and orthographic analyses, and a brief consideration of comparative linguistics, descriptive linguistics, psycho- and socio-linguistics and computational linguistics.

## 316. GEOLINGUISTICS (3)

*Katranides*

Survey of languages of the world. To include language typology based on genetic relations, geographical distribution, and structural features.

400. PROCEDURES IN TEACHING ENGLISH AS A FOREIGN LANGUAGE (2)

*Staff*

Procedures in teaching English as a foreign language with particular emphasis on the Aural-Oral, New-Key, and Intensive Methods.

401. MATERIALS IN TEACHING OF ENGLISH AS A FOREIGN LANGUAGE (2)

*Staff*

Intended to acquaint the student with the materials recently published in this field, emphasizing criteria for selecting the materials depending upon native language and proficiency in English.

408. PROBLEMS IN TEACHING OF ENGLISH AS A FOREIGN LANGUAGE (2)

*Staff*

Consideration of various problems encountered in teaching English as a foreign language.

409. CONTRASTIVE ANALYSES OF ENGLISH AND MAJOR FOREIGN LANGUAGES (3)

*Staff*

Methods and techniques of doing a contrastive analysis to locate "trouble spots" with the speaker of any given foreign language.

410. LABORATORY COURSE IN TEACHING OF ENGLISH AS A FOREIGN LANGUAGE (3)

*Staff*

Practical experience in T.E.F.L. Students will be assigned to teach English to small groups of Ohio University foreign students.

414. MODERN ENGLISH DIALECTS (3)

*Roe*

History, theory, and techniques of dialect geography. Special emphasis on the regional and social dialects of contemporary American English. Brief survey of the principal dialects of British English, including Received Standard, Cockney, and Scottish.

425. PHONETICS (3)

*Staff*

Emphasis on articulatory phonetics including descriptions of the sounds of speech in terms of the parts of the human vocal apparatus which produce them. Students will learn to recognize and describe the sounds made in various languages of the world. To include a brief introduction to the spectrographic analysis of speech sounds.

426. PHONEMICS (3)

*Staff*

The theoretical basis for the concept of the phoneme and discovery procedures for detecting and systematically organizing the minimal signal-carrying units of various languages.

427. GRAMMAR ANALYSIS (MORPHOLOGY-SYNTAX) (4)

*Katranides*

Methods of analyses and structural description of the two basic divisions of grammar: The first half concerns morphemic analyses of languages; the second half, methods of arriving at systematic descriptions of the syntactic arrangements of morphemes as they occur in various languages.

428. TRANSCRIBING AND LINGUISTIC FIELD WORK (2)

*Staff*

How to collect and organize raw linguistic data taken from native informants of various languages. To include practice in transcription in phonetics and phonemics.

429. HISTORICAL LINGUISTICS (2)

*Flum*

Introduction to Indo-European historical linguistics. To include theory and practice of genetic comparison and reconstruction, internal history, dialect geography, and linguistic borrowing.

430. COMPARATIVE LINGUISTICS (2)

*Flum*

Application of the comparative method to particular languages, families and sub-families within the Indo-European group.

431. RECENT TRENDS IN LINGUISTICS (3)

*Klare, Arnold*

Survey in the relationship of Linguistics to the allied fields of Mathematics, Acoustics, Psychology and Sociology.

- 433-434. DESCRIPTIVE LINGUISTICS (3-3)

*Staff*

Intensive courses in Afrikaans, Bulgarian, Serbo-Croatian, Cambodian, Wes-Cos, and Modern Greek.

435. LINGUISTICS SEMINAR (1-2)

*Staff*

Papers of special linguistic interest will be presented by students, faculty, and special guest speakers. A student who presents a paper will receive two credit hours. Students who prepare a paper on one of the topics discussed at the seminar and present it to the course instructor will receive one hour credit. Open to public.

495. THESIS (As recommended by dept.)

*Staff*

The masters thesis is generally elected for three or four hours credit.

500. CURRENT PROBLEMS IN LINGUISTICS (2)

*Staff*

Intended to acquaint graduate students with the recent problems in various areas of linguistic analyses.

## 501. PROBLEMS IN MORPHOPHONEMICS (2)

*Katranides*

The concepts of morphophonemics. Emphasizing problem solving in this area.

## 502. SOCIO-LINGUISTICS (3)

*Arnold*

Language change, language variation, language interference, and possible relation between language and thought.

## 503. THE HISTORY AND DEVELOPMENT OF LINGUISTICS (2)

*Staff*

The rise and development of linguistics emphasizing period beginning in the late nineteenth century up to the present. Consideration to particular linguists, their contributions, and the reasoning behind their approaches to certain solutions.

## 504. READINGS IN LINGUISTICS (1-3)

*Staff*

Special readings in areas of linguistics other than those offered in the regular curriculum. Amount of credit at the discretion of the instructor.

## 505. COMPUTATIONAL LINGUISTICS (3)

*Staff*

The application and value of computer science in relation to linguistics. How to program language material for various machines. The various uses of computers in regards to language materials.

## 595. DISSERTATION (As recommended by dept.)

*Staff***FINANCE**

(Minor only)

*Associate Professor Blythe (chairman)**Assistant Professor Dudley**Instructor Martin*

To begin a minor in finance for degrees other than the Master of Business Administration, only the completion of basic courses satisfactory to the department is necessary.

## 305. INVESTMENT PRINCIPLES (3)

*Martin*

Information for individual investors which can be used in the management of personal investment problems. Among the topics to be considered are investment risks and how they can be handled, yields, analysis of financial statements, and securities markets and their behavior.

## 306. SECURITY ANALYSIS (3)

*Staff*

Problems of selecting securities for various investment purposes. Industry structure, volume-price-cost relationships, management, financial position, terms of the security contract, and market price behavior are studied to determine the attractiveness of a security. Portfolio construction is considered. Prereq., 305.

## 314. RISK AND INSURANCE (3)

*Staff*

Study of the social importance of risk and its place in our personal, business and national life, including principles and methods of handling risk. Special interest in the technique of insurance.

## 315. PROPERTY AND CASUALTY INSURANCE (3)

*Staff*

Analysis of the principal types of property and casualty insurance policies with respect to protection afforded the policyholder, his obligations, and cost of protection. Policies studied include fire and extended coverage, allied lines, business interruption, inland marine, automobile, general liability, theft, and bonds. The subjects of risk, insurance law, and multiple-peril policies are also covered.

## 316. LIFE INSURANCE (2 or 3 as scheduled)

*Staff*

The fundamental economics of life insurance. The principles and practices of life insurance, including types of contracts, group and industrial insurance, and annuities.

## 343. MONEY AND CAPITAL MARKETS (3)

*Blythe*

Study of the flow of funds, interest-price movements, and the institutions of the money and capital markets, including trading in federal funds, open-market paper, mortgage loan market, corporate securities markets, and the markets for government securities and municipal obligations.

## 351. MONETARY THEORY (3)

*Dudley*

A study of the theories advanced to explain the relationship between money and its value, the relationship between money and the level of economic activity, allocations of funds among alternate uses, and interest and interest rates.

## 352. INTERNATIONAL FINANCE (3)

*Dudley*

An analysis of the problems in international finance; structure and development of the foreign exchange market. Foreign central banking and current developments in international financial cooperation.

## 356. PROBLEMS IN CORPORATION FINANCE (3)

*Blythe*

This course is developed through the use of the cases which deal with short-term financing, long-term financing, reserve and dividend policies, extension and combination, refunding, recapitalization, and reorganization. Not open to M.B.A. and M.S. (Acct.) degree students. Open to other students by permission only.

## 381. RESEARCH IN FINANCE (1 to 8)

*Staff*

Prereq., permission.

## 391. SEMINAR IN FINANCE (2 to 4)

*Staff*

Maximum credit in course, 10 hrs. Prereq., permission.

## 401-402. FINANCIAL MANAGEMENT (3-3)

*Blythe*

The finance function of business as viewed by the executive responsible for procuring and utilizing funds. Short-term financing is covered in 401; long-term financing is covered in 402. Case method.

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

ADDITIONAL COURSE: EC. 315, PUBLIC FINANCE.

## FINE ARTS

*Professors Ahrendt, Boase, Brandes, Clark, Kantner, Leach, Staats, Walker*

*Associate Professors Hall, Jennings, Lane, Trisolini (chairman), White*

*Assistant Professors Conover, Kortlander, Suess, Tomko, Wortman*

## THE DOCTOR OF PHILOSOPHY DEGREE

The doctoral program in Fine Arts stresses the inter-relationship of major art forms through a sequence of comparative studies which points toward a synthesis of knowledge and understanding in the Fine Arts. Graduate course offerings are organized into four major chronological areas; viz., the Renaissance, the Baroque, the Nineteenth Century, and the Twentieth Century. Areas of study outside Western culture are offered within the designations F.A. 309, 475, 371, 390, and 381. In addition the College of Fine Arts sponsors special summer sessions in the history and theory of the arts in such fields as: The art of the Orient, Pre-Columbian arts, African arts, the arts of Colonial America and the arts of Russia and the Soviet Union.

Applications for admission to graduate study at the doctoral level in Fine Arts will be considered individually by a departmental committee established for this purpose. The minimum course requirements for the student in

the Ph.D. program in Fine Arts shall consist of at least 60 semester hours of work beyond the master's degree. To insure the breadth of background needed for entrance into the program, each student is expected to meet certain basic requirements. More specifically, but without intent to be precisely prescriptive, the student entering the program should have completed a master's degree which has had its major emphasis in practical applications in the Fine Arts area. The following areas should be covered in the total program of the student either by substantial and approved courses at the undergraduate level or in graduate courses: (1) six hours or two courses or its equivalent in the history of painting and sculpture or the history of architecture; (2) six hours or two courses or its equivalent in the history of music; (3) six hours or two courses or its equivalent in the history of visual theatre or the history of oratory.

Students trained at the level of the master's degree in the studio or practical aspects of one of the particular arts will utilize this training as a minor area of study in the doctoral program. The major area will be composed of history and theory of the arts encompassing the following: (1) at least one course in each of the five core areas of art, music, theatre, public address and architecture; (2) at least two core courses each semester; (3) all core courses in at least two areas; (4) at least 18 hours in major area exclusive of the applied minor and the dissertation; (5) an applied minor of at least 12 hours; (6) a dissertation involving work in at least two areas.

## 309. CLASSICAL RHETORICAL THEORY (3)

*Staats, Watkins*

The principles of rhetoric based upon the theories of Aristotle, Cicero, Quintilian, and Adams. Speeches of eminent orators are analyzed.

## 321. HISTORY OF DRAMATIC CRITICISM (3)

*Conover, Walker*

The principles of dramatic criticism from Aristotle to the present.

## 322. DRAMATIC COMPOSITION (3)

*Walker*

Theory of playwriting. Practical experience in the writing and re-writing of plays. Scripts of sufficient merit are produced under the writer's supervision by the University Playshop.

## 324. CONTEMPORARY THEATRE (3)

*Lane*

Trends in twentieth century theatre; the spread of "the new stagecraft" and the growth of realism; developments in non-realistic drama and theatre.

## 337. THE LITERATURE OF VOCAL MUSIC (2)

*Wortman*

Representative literature from the fields of oratorio, choral music, and the art song.

## 338. THE LITERATURE OF ORCHESTRAL MUSIC (2)

*Suess*

Orchestral literature from the classic through the contemporary.

## 339. THE EVOLUTION OF THE OPERA (2)

*Wortman*

## 340. THE LITERATURE OF PIANO MUSIC (2)

*Jennings*

The development of the instrument, the primary forms adapted to it, and the representative composers.

## 344. CONTEMPORARY MUSIC (3)

*Suess*

Music as an artistic expression of our time. A study of the various styles since c. 1900.

## 353. MASTERS OF THE THEATRE (3)

*Lane*

Techniques for the production of historical plays. Preparation of the director's manuscript and actual supervision of production. Open only to majors in dramatic art. Prereq., 351, permission.

## 359. ACTING FOR LYRIC DRAMA (3)

*Conover*

Advanced techniques of acting in relation to the form and content of lyric drama. Laboratory experience in the creation of roles. Special emphasis on the Elizabethan, with some attention to Greek and twentieth century authors. 1 lec., 4 lab. Prereq., 304.

## 371. LATIN AMERICAN ART (3)

*Staff*

Architecture, sculpture, and painting of the Hispanic Southwest, Mexico, Central America, the Caribbean Area, and South America from Pre-Columbian times to the present.

## 375. NINETEENTH CENTURY ARCHITECTURE (3)

*Tomko*

Development of architecture from colonial times. 2 lec.

## 376. TWENTIETH CENTURY ARCHITECTURE (3)

*Tomko*

An extensive study of the origins and rise of contemporary architecture; the education, theories, and works of prominent architects. Lectures, assigned presentations, and seminar discussions. Prereq., 375, permission.

## 378. PHILOSOPHY OF ARCHITECTURE (2)

*Staff*

Theories of architecture advanced or exemplified by philosophers, aestheticians, and architects. Lectures, assigned presentations, and seminar discussions. Prereq., 377, permission.

## 381. RESEARCH (1 to 5)

*Staff*

Individual problems of theory and practice involving research techniques. Prereq., permission.

## 382. CUBISM, EXPRESSIONISM, AND LATER DEVELOPMENT (3)

*Kortlander, Leach*

Appearance and development of basic artistic expressions from the beginning of the twentieth century to the present.

## 385. CONTEMPORARY PUBLIC ADDRESS (3)

*Brandes*

Prereq., permission.

## 390. SEMINAR IN ART HISTORY (2 or 3)

*Staff*

Individual and group problems on periods and movements. Detailed reports. Recommended for students in the process of writing a thesis. Prereq., permission.

## 403. THE RENAISSANCE (3)

*Kortlander, Leach*

A comparative study of the developments in Italy prior to Raphael's death and in the north of Europe to the death of Hans Holbein the younger.

## 404. MANNERISM AND THE BAROQUE (3)

*Kortlander, Leach*

Origin and the development in Italy subsequent to 1520 with attention to variations in the north of Europe and in England.

## 422. RENAISSANCE THEATRE (3)

*Conover*

The development of the theatre from the rise of humanism to the establishment of the Baroque style.

## 423. BAROQUE THEATRE (3)

*Walker*

Detailed study of the Baroque Period with special attention to the theatre arts as expressions of the aesthetic, social and political philosophies of the times.

## 424. NINETEENTH CENTURY THEATRE (3)

*Walker*

A study of the major developments of the nineteenth century European theatre in relation to the aesthetic and social forces of the times.

## 441. MUSIC OF THE MEDIEVAL AND RENAISSANCE PERIODS (3)

*Wortman*

Music as an artistic expression of the Medieval and Renaissance periods; a history of the evolution of musical styles up to c. 1600.

442. MUSIC OF THE BAROQUE PERIOD (3)

*Suess*

Music as an artistic expression of the Baroque period; a history of the evolution of musical styles c. 1600-c. 1750.

443. MUSIC OF THE CLASSIC AND ROMANTIC PERIODS (3)

*Wortman*

Music as an expression of the Classic and Romantic periods; a history of the evolution of musical styles c. 1750-c. 1900.

471. AMERICAN PUBLIC ADDRESS (3)

*Staats*

The history of public address in America from colonial times to the present.

472. BRITISH AND FRENCH PUBLIC ADDRESS (3)

*Brandes*

A study of the pulpit and political orators of the French revolutionary period and the British parliamentary orators of the eighteenth and early nineteenth centuries. Prereq., 309 or equivalent.

473. RENAISSANCE RHETORICAL THEORY (3)

*Boase*

The major rhetorical theories from Cox in 1530 to Whately in 1828 are covered, with the emphasis placed on the Renaissance linking of ancient to modern rhetoric.

474. ARCHITECTURE TO 1600 (3)

*Tomko*

The development of the classic style from Greece to Rome and its survival through the Medieval period and its revival in the Renaissance.

475. GREEK, ROMAN, AND PATRISTIC PUBLIC ADDRESS (3)

*Staats*

Historical and cultural aspects of public address in the Greek, Roman and Patristic periods. Outstanding speakers and speeches of each period analyzed in terms of the issues of the time. Prereq., 309.

477. THE BAROQUE SPIRIT IN ARCHITECTURE (3)

*White*

Social, artistic and religious influence on architecture of the Baroque period, with emphasis on English influence in America.

481. IMPRESSIONISM AND POST-IMPRESSIONISM (3)

*Kortlander, Leach*

Emphasis on the developments in French Art between the 1848 Revolution and 1900. The problems of the Academy, Romanticism, Classicism, Realism, Impressionism, Post-Impressionism, Cezanne, and the Symbolists.

491. SEMINAR IN FINE ARTS (1)

*Trisolini, staff*

Maximum credit in course, 6 hrs.

495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

595. DISSERTATION (As recommended by dept.)

*Staff*

Prereq., permission.

## FRENCH

(See Modern Languages)

## GEOGRAPHY AND GEOLOGY

*Professor Sturgeon (chairman)*

*Assistant Professors Baker, Fisher, Korsok, Phelps*

*Instructors Riley, Vincent*

Graduate students who wish to major in geology must have completed three hours in each of the following courses: historical geology, mineralogy, petrology, and structural geology, and in addition must have earned sufficient hours of the following to complete a minimum of 24 hours in geology: economic geology, glacial geology, geomorphology, paleontology, sedimentation, stratigraphy, and field geology. At least six hours each of chemistry, physics, and mathematics through trigonometry are also required. Students unable to meet the above requirements will be asked to make up deficiencies without graduate credit. It is recommended, where appropriate, that the graduate student complete differential calculus and quantitative chemistry. Credit in a recognized field camp is required.

Graduate students who wish to minor in geography or geology should have a minimum of 12 hours in geography or geology, respectively, in courses approved by the department. A major program in geography is not offered.

### GEOGRAPHY (Minor only)

301 GEOGRAPHY OF THE SOVIET UNION (3)

*Korsok*

Physical, cultural, and economic geography of the Soviet Union. (1st sem., 1966-67.)

305. GEOGRAPHY OF LATIN AMERICA (3)

*Vincent*

Similar treatment as in 301. (1st sem., yearly.)

308. GEOGRAPHY OF EUROPE (3)

*Korsok*

Similar treatment as in 301. (1st sem., 1967-68.)

## 312. GEOGRAPHY OF SOUTHERN ASIA AND ISLANDS (3)

*Korsok*

Similar treatment as in 301. (2nd sem., 1967-68.)

## 322. GEOGRAPHY OF AFRICA (3)

*Riley*

Similar treatment as in 301. (1st sem., 1967-68.)

## 360. POLITICAL GEOGRAPHY (3)

*Korsok*

Geographic basis of national strength or weakness. Physical and cultural influence upon historical development is emphasized. (2nd sem., yearly.)

## 370. URBAN GEOGRAPHY (3)

*Korsok*

Study of geographic factors in urban areas stressing locational and economic factors. Prereq., 6 hrs. (1st sem., 1966-67.)

## 382. GEOGRAPHICAL STUDIES (1 to 4 a semester in any one of the following)

*Staff*

Supervised studies in fundamentals of geographic research. Maximum credit in any one area, 8 hrs. Prereq., permission. (Each sem.)

a. Cartography.

*Korsok*

b. Conservation of Natural Resources.

*Staff*

c. Economic Geography.

*Korsok*

d. Meteorology and Climatology.

*Wilhelm*

e. Physiography (see Geol. 383a).

*Staff*

f. Political Geography.

*Korsok*

g. Regional Geography.

*Staff*

h. Urban Geography.

*Korsok*

## 391, 392. SEMINAR IN GEOGRAPHY (1, 1)

*Staff*

Maximum credit in course, 2 hrs. (Yearly.)

## GEOLOGY

## 313. PRINCIPLES OF SEDIMENTATION (3)

*Fisher*

Processes and principles involved in study of sediments. 2 lec., 2 lab., and field trips. (1st sem., yearly.)

## 314. PRINCIPLES OF STRATIGRAPHY (3)

*Sturgeon*

Materials and principles involved in the study of stratigraphy. 2 lec., 2 lab., and field trips. Prereq., 313. (2nd sem., yearly.)

## 315. GEOLOGY OF OHIO (2)

*Sturgeon*

Introduction to its physiography, stratigraphy, and economic geology. 2 lec., and field trips. (2nd sem., 1967-68.)

## 333. OPTICAL CRYSTALLOGRAPHY (2)

*Fisher*

Study of optical behavior of minerals by use of the petrographic microscope. 1 lec., 1 lab. (1st sem., yearly.)

## 343. IGNEOUS AND METAMORPHIC PETROGRAPHY (3)

*Fisher, Phelps*

Classification, identification in thin sections, and paragenesis of igneous and metamorphic rocks. 1 lec., 2 lab. Prereq., 333. (1st sem., 1967-68.)

## 344. SEDIMENTARY PETROGRAPHY (2)

*Fisher*

Identification, description, and classification of sedimentary rocks in thin sections and grain mounts. 1 lec., 1 lab. Prereq., 313, 333. (2nd sem., 1967-68.)

## 353. MICROPALAEONTOLOGY (3)

*Sturgeon*

Introduction to microscopic animal fossils. 2 lec., 2 lab., and field trips. (1st sem., 1967-68.)

## 362. STRUCTURAL GEOLOGY (3)

*Phelps*

Study and interpretation of rock structures caused by earth movements. 2 lec., 2 lab., and field trips. (2nd sem., yearly.)

## 371. ECONOMIC GEOLOGY — Metals (3)

*Phelps*

Principles of metallic mineral deposition and a survey of the ore deposits of the world. 2 lec., 2 lab. (1st sem., 1966-67.)

## 372. ECONOMIC GEOLOGY — Non-metals (3)

*Fisher*

Principles of non-metallic mineral deposition and a survey of non-metallic and mineral fuel deposits of the world. 2 lec., 2 lab., and field trips. (2nd sem., 1966-67.)

## 374. PRINCIPLES OF PETROLEUM GEOLOGY (3)

*Fisher*

Principles of the origin, migration, and accumulation of petroleum, and a survey of the major petroleum basins of the world. Prereq., 362. (2nd sem., 1967-68.)

## 376. GROUND WATER GEOLOGY (3)

*Baker*

Study of the principles governing the occurrence, movement, and recovery of ground water. Prereq., 314. (1st sem., 1967-68.)

## 383. GEOLOGIC STUDIES (1 to 4 a semester in any of the following)

*Staff*

Supervised studies in fundamentals of geological research. Maximum credit in any one area, 8 hrs. Prereq., permission.

a. Glacial Geology and Physiography.

*Baker*



- b. Ground Water Geology. *Baker*  
 c. Mineralogy, Petrology, or Economic Geology. *Fisher, Phelps*  
 d. Paleontology. *Sturgeon*  
 e. Sedimentation and Stratigraphy. *Fisher, Phelps, Sturgeon*  
 f. Structural Geology. *Baker, Phelps*  
 g. Tectonics. *Baker, Fisher, Phelps*

385, 386. GEOLOGIC FIELD RECONNAISSANCE  
 (2 or 3, 2 or 3) *Staff*

Vacation period geologic field trips to selected areas in North America with pertinent conferences, readings, and accepted reports. Prereq., permission. Maximum credit in course, 6 hrs.

391, 392. SEMINAR IN GEOLOGY (1, 1) *Staff*  
 Attendance required of all graduate students. Maximum credit in course, 3 hrs. (Yearly.)

415. REGIONAL STRATIGRAPHY—EASTERN NORTH AMERICA (3) *Sturgeon*  
 Detailed stratigraphy east of the Great Plains. 2 lec., 2 lab. Prereq., 314. (1st sem., 1966-67.)

416. REGIONAL STRATIGRAPHY—WESTERN NORTH AMERICA (3) *Phelps*  
 Similar to 415 but covering the Great Plains and Cordilleran regions. 2 lec., 2 lab. Prereq., 314. (2nd sem., 1966-67.)

428. PHYSIOGRAPHY OF NORTH AMERICA (3) *Baker*  
 Study of surface features and related significant geologic factors of North America. Prereq., 314, 362. (2nd sem., 1967-68.)

463. GEOTECTONICS (3) *Staff*  
 Study of mountain building, continental drift, island arcs, and comparison of rock structures in different mountain types. Prereq., 314, 362. (1st sem., 1967-68.)

493. RESEARCH IN GEOLOGY (1 to 4) *Staff*  
 Maximum credit in course, 6 hrs. Prereq., permission. (Yearly.)

495. THESIS (As recommended by dept.) *Staff*  
 Maximum credit in course, 6 hrs. Prereq., permission.

**GERMAN**  
 (See Modern Languages)

**GOVERNMENT**

*Professor Collins*  
*Associate Professors Bald, Elsbree (chairman), Gusteson*  
*Assistant Professors Connolly, Prisley, Tucker*  
*Instructor Holm*

To begin graduate work with government as a major, a minimum of 18 hours in government, or its equivalent, is required.

To begin a graduate minor in government, a minimum of six hours in government, or its equivalent, is required.

301,302. AMERICAN CONSTITUTIONAL LAW (2,2) *Gusteson*  
 Principles underlying American constitutional government. Consideration of leading cases, with special reference to interpretation of the Constitution of the United States. (Yearly.)

305. AMERICAN POLITICAL PARTIES (3) *Gusteson*  
 The origin, growth, organization, and methods of parties; the role of parties in a democracy; the influence of pressure groups. (Yearly.)

308. LEGISLATURES AND LEGISLATIVE PROCESSES (3) *Gusteson*  
 Major problems of representative government with respect to legislative assemblies. Analysis of structure, organization, and procedures. Interrelationship of legislatures with other forces in society. (Yearly.)

309. LAW ENFORCEMENT (3) *Gusteson*  
 Survey and analysis of the problems of the American policing, prosecutory, judicial, and correctional systems. Emphasis on both policy making and administration. (Yearly.)

323. INTERNATIONAL LAW AND ORGANIZATION (3) *Bald*  
 Analysis of the legal principles and practices governing the relations between states; study of the development, structure, and functions of international organizations, with particular emphasis on the United Nations. (2nd sem., yearly.)

328. NEW STATES IN WORLD POLITICS (3) *Holm*  
 A detailed examination of the impact of new states on international relations. Particular attention will be given to the problems faced by and the foreign policy of new states in the world arena. (2nd sem., yearly.)

## 331. FAR EASTERN GOVERNMENTS AND POLITICS (3)

*Elsbree*

A study of the governmental organization, political parties, and foreign policies of China and Japan. Political developments since 1945 will be emphasized. (Yearly.)

## 333. AFRICAN GOVERNMENT AND POLITICS (3)

*Holm*

The development and structure of modern African states with emphasis on political processes in tropical Africa. (1st sem., yearly.)

## 341. AMERICAN FOREIGN POLICY (3)

*Collins*

A consideration of the problems involved in the formulation and execution of foreign policy. Particular emphasis is given to the current problems of American policy. (2nd sem., yearly.)

## 343. AMERICAN POLITICAL THOUGHT (3)

*Prisley*

The origin and development of American political ideas from colonial times to the present, focusing upon concepts of democracy, liberty and property. (Yearly.)

## 344. RECENT POLITICAL THOUGHT (3)

*Elsbree*

Political ideas of the nineteenth and twentieth centuries with the emphasis on Europe; liberalism, socialism, communism, and fascism. (Yearly.)

## 348. PUBLIC ADMINISTRATION (3)

*Collins*

The theory and practice of administrative organization, and control of administrative action, with emphasis on financial and public personnel administration. Basic course for preparation for civil service examinations. (Yearly.)

## 349. ADMINISTRATIVE LAW (3)

*Collins*

Organization, functions, procedures, and administrative problems of selected national regulatory agencies; principles affecting administrative discretion; administrative power over private rights; enforcement and judicial control of administrative action.

## 370. STUDIES IN GOVERNMENT (1 to 3)

*Staff*

Intensive study of special topics in the field of government and political science. Areas of study include American government and politics, comparative government, international affairs, political parties, political theory, public administration, public law. Maximum credit in course, 12 hrs. Prereq., permission. (Each sem.)

## 391. SEMINAR IN GOVERNMENT (1 to 3)

*Staff*

Maximum credit in course, 6 hrs.

## 398. PROBLEMS IN GOVERNMENT (1 to 3)

*Staff*

Research or directed reading based upon the student's special interest. Maximum credit in course, 6 hrs. Prereq., permission.

## 401. RESEARCH IN GOVERNMENT (1 to 3)

*Staff*

Maximum credit in course, 6 hrs. Prereq., permission.

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## GREEK

(See Classical Languages)

## HAUSA

(See Modern Languages)

## HISTORY

*Professors Cady, Gilmore, Gustavson, Stevens*  
*Associate Professors Daniel, Lobdell (chairman)*

*Assistant Professors Booth, Dorse, Hamby, Hehn, Herring, Lindsay, Rauschenberg, Richter, Steiner, Whealey*

To undertake graduate work with history as a major, a minimum of 24 hours in history is required, including the basic survey courses in European and American history, or their equivalent, and at least three courses in the 300-399 group.

To begin a graduate minor in history, a minimum of twelve hours in history, or approved equivalents is required.

Graduate students majoring in history are required to take History 395 and 398.

Thesis and non-thesis master's programs are available.

## 301. COLONIAL AMERICA (3)

*Steiner*

The discovery and colonization of America, relation of the colonies to England, and the daily life of colonial Americans. (1st sem., yearly.)

## 302. THE REVOLUTIONARY ERA (3)

*Stevens*

An intensive study of the causes of the Revolution, the struggle for independence, the movement for a new government, and the framing of the Constitution. (2nd sem., yearly.)

304. FEDERALISM AND JEFFERSONIAN  
DEMOCRACY (2)

*Staff*

The shaping of America's political, social, and economic institutions, constitutional development, and traditional foreign policy under the Founding Fathers and the exponents of Jeffersonian democracy. (1st sem., yearly.)

310. SECTIONAL CONTROVERSY—1820-1850

*Stevens*

Slavery and political controversy, rise of the common man, rural conditions, transportation, immigration, education, the factory system, reform agitation, territorial annexations, and growth of nationality. (1st sem., yearly.)

312. THE CIVIL WAR AND RECONSTRUCTION  
(3)

*Stevens*

The sections of the United States in 1850, forces leading to war, and the great conflict; Reconstruction, its background and development; restoration of home rule in the South, and general cultural and economic development. (2nd sem., yearly.)

315. FOUNDATIONS OF MODERN AMERICA, 1877-1901 (3)

*Herring, Hamby*

An intensive examination of the origins of modern America, emphasizing internal industrialization and external expansion and their combined impact upon economic, social, and political life in American society. (2nd sem., yearly.)

316. HISTORY OF THE INDUSTRIAL REVOLUTION  
IN THE UNITED STATES—1850-1941 (3)

*Daniel*

Origins of the factory system in America, the impact of the Civil War, rise of heavy industry, problems of financing and control, influence of the progressive era, resurgence of big business during wartime and the twenties, and industrial problems of the depression period. (2nd sem., yearly.)

321. THE UNITED STATES IN RECENT TIMES—  
1898-1928 (3)

*Lobdell, Hamby*

American imperialism, the Progressive Era, World War I, retreat from world responsibility and the post-war prosperity period. (1st sem., yearly.)

322. THE UNITED STATES IN RECENT TIMES—  
SINCE 1928 (3)

*Lobdell, Hamby*

The great depression, the New Deal, abandonment of isolation, World War II, and post-war crises and problems. (2nd sem., yearly.)

324. UNITED STATES FOREIGN RELATIONS  
SINCE 1865 (3)

*Herring*

A survey of American foreign relations since 1865, emphasizing American diplomacy as a composite reaction to external forces in Latin America, the Far East, and Europe and to internal demands of American society. (1st sem., yearly.)

325. THE WESTWARD MOVEMENT (3)

*Daniel, Stevens*

Expansion from the Atlantic to the Pacific. Explorations, Indian trade, land policies, pioneer life, territorial acquisitions and state making, trails and railroads to the Far West, rise of cowboy land, types of later frontiers, and influence of the West upon American ideals and institutions. (2nd sem., yearly.)

331, 332. SOCIAL AND CULTURAL HISTORY OF  
THE UNITED STATES (3, 3)

*Daniel*

Role of minorities, class structure, and religion in forming American society; development of American painting, architecture, music, literature, education, and science as expressions of American culture. (Yearly.)

341. THE MIDDLE WEST (3)

*Stevens*

Development of political, economic, and social institutions and attitudes characteristic of Ohio and the Middle West since 1787. Emphasis on twentieth century community relationships, problems, and forms of behavior. (1st sem., 1966-67.)

342. THE BRITISH EMPIRE (3)

*Rauschenberg*

Development of the British Empire from the eighteenth to the beginning of the twentieth century, surveying the formulation of colonial policy and the internal growth of empire. (1st sem., 1966-67.)

343. BRITISH COMMONWEALTH (3)

*Rauschenberg*

Evolution from empire to commonwealth during the present century; a study of the factors involved in this process and of the historical development of its component parts. (2nd sem., 1966-67.)

347. RECENT LATIN AMERICA (3)

*Gilmore*

Social and political change reflecting the needs and rivalries of an emerging middle class, organized labor, the armed forces, economic associations, and other pressure groups. The role of new parties and ideologies in guiding and stimulating change in the Latin-American nations will be analyzed. (1st sem., yearly.)

## 348. PRO-SEMINAR IN CONTEMPORARY LATIN AMERICA (3)

*Gilmore*

Directed reading and analysis of the current scene. (2nd sem., yearly.)

## 350. THE FAR EAST IN MODERN TIMES (3)

*Cady*

Manchu China and Tokugawa Japan from the early nineteenth century; the opening of China; Meiji Restoration in Japan; failure of China to adjust to external pressures; Japan's emergence as a world power; Manchu collapse and abortive efforts to reconstitute the state; Japanese political developments to 1930; defeat of Japan's effort at hegemony over Eastern Asia; Communist triumph in China. (2nd sem., yearly.)

## 352. SOUTHEAST ASIA (3)

*Cady*

Indianization of Southeast Asia, Hindu, Buddhist, Islamic; cultural centers of historic Southeast Asia; the impact of Western colonialism on the area; liquidation of colonial rule and problems faced by the new world of Southeast Asia. (1st sem., yearly.)

## 356. THE MIDDLE EAST IN MODERN TIMES (3)

*Dorsee*

The decline of the Ottoman Empire during the course of the nineteenth century; the emergence and evolution of the successor states of the Middle East; contemporary economic, social, and political problems of the region. (1st sem., yearly.)

## 361. THE RENAISSANCE AND THE REFORMATION (3)

*Lindsay*

A study of Europe in transition from the fourteenth to the sixteenth centuries, with special emphasis on Italy. The course will examine the rise of the national states, the commercial revolution, humanism, art and architecture, the later medieval church, the rise of Protestantism, and the Catholic Reformation. (1st sem., 1966-67.)

## 363. TUDOR AND STUART ENGLAND (3)

*Rauschenberg*

England in the sixteenth and seventeenth centuries; a study of Tudor absolutism, the English Reformation, the constitutional crises (parliament versus the Crown) of the Stuart period, the republican experiment under Cromwell, the beginnings of empire, and the major cultural and economic developments. (2nd sem., 1966-67.)

## 364. GREAT BRITAIN SINCE 1815 (3)

*Richter*

Intensive study of Britain's history in the 19th and 20th centuries, with emphasis on the growth of political and social democracy. (2nd sem., yearly.)

## 365. FRENCH REVOLUTION (3)

*Gustavson*

An intensive study of such historical factors as causality, influence of ideology, institutional organization, and the role of the individual in a great social upheaval. Pro-Seminar. (2nd sem., 1966-67.)

## 366. FRANCE SINCE 1815 (3)

*Hehn*

Socio-political, institutional and cultural evolution; the revolutionary and authoritarian traditions under monarchy and republic; the role of France as a Great power. (2nd sem., yearly.)

## 367. EUROPE 1815-1870 (3)

*Whealey*

From the Congress of Vienna through the Franco-Prussian War; growth of liberalism and nationalism; the unification of Italy and Germany; contemporary cultural and intellectual movements. (1st sem., 1966-67.)

## 369. EUROPE FROM 1870 TO 1919 (3)

*Whealey*

The development of France, Germany, Italy, Russia, and Britain; a study of the historical setting for an era of social upheaval and World Wars. (2nd sem., 1966-67.)

## 370. EUROPE BETWEEN WORLD WARS (3)

*Gustavson, Whealey*

Fascism, communism, and the twenty-year armistice between 1919 and 1939. (1st sem., 1966-67.)

## 372. CONTEMPORARY EUROPE (3)

*Gustavson*

Problems of peace and war in Europe since 1939. (2nd sem., 1966-67.)

## 374. EUROPEAN DIPLOMATIC HISTORY, 1917 TO THE PRESENT (6)

*Whealey*

International problems of peace and war since World War I, international organization and alliances, adjustment to the collapse of European imperialism. (2nd sem., 1966-67.)

## 375. HISTORY OF RUSSIA (3)

*Gustavson*

A survey from the earliest times to 1914. The Russian background of communist ideas, organization, and practices is stressed. (1st sem., yearly.)

## 376. THE SOVIET UNION (3)

*Gustavson*

A history of the U.S.S.R., with emphasis on internal affairs of the Communist regime. (2nd sem., yearly.)

## 378. THE HISTORY OF MODERN GERMANY (3)

*Gustavson*

A survey of Germany and central Europe since the Age of Napoleon. (1st sem., 1966-67.)

## 379. THE BALKANS (3)

*Hehn*

Brief historical background of the Balkan peoples; conflicting nationalisms and big power rivalries; Sovietization, Titoism, and 1956 Hungarian Revolution. (1st sem., 1966-67.)

## 380. HISTORY OF CENTRAL EUROPE (3)

*Hehn*

Political, cultural, and social evolution of the Czechs, Poles, Magyars, Ukrainians, and Balts, with emphasis on the 19th and 20th centuries. (1st sem., 1967-68.)

## 381. HISTORY OF INTERNATIONAL COMMUNISM (3)

*Hehn*

International aspects of Marxism; European socialist parties, 1871-1914; the Bolshevik Revolution in its European context; organization, functions, and aims of the Cominform; the role of Communist parties in World War II and after; the emergence of polycentrism. (2nd sem., yearly.)

## 387. PRE-COLONIAL AFRICA (3)

*Booth*

History of the African continent from earliest times to the beginning of the 19th century: formation of African peoples, growth of states and empires, and the impact of European, Islamic, and Asiatic cultures. (1st sem., yearly.)

## 388. AFRICA IN MODERN TIMES (3)

*Booth*

African geography, resources, and peoples; European contacts prior to 1860; explorers and missionaries; partitioning to 1914; recent political and economic developments; problems of racial and cultural adjustment; prospects of merging African states. (2nd sem., yearly.)

## 390. REPRESENTATIVE HISTORIANS AND THEIR WRITINGS (2 or 3 as scheduled)

*Stevens*

Typical historians from the time of Herodotus with readings from their masterpieces to illustrate schools of interpretation, philosophies of history, and the development of historical writing. (2nd sem., 1966-67.)

## 392. PROBLEMS IN HISTORY (1 to 3)

*Staff*

Intensive individual work either in research or in systematic reading along the lines of the student's special interest under the supervision of a member of the staff. Prereq., permission. Maximum credit in course, 6 hrs. (Each sem.)

## 393. PRO-SEMINAR IN EAST ASIAN HISTORY (3)

*Cady*

Historical background of East Asian developments, from India to Japan, during the past century. Prereq., 350 or 352 and permission. (2nd sem., yearly.)

## 394. PRO-SEMINAR IN AFRICAN HISTORY (3)

*Booth, Dorse*

Selected aspects, such as the slave trade, the Chartered Companies, diplomatic episodes, and histories of individual peoples. Prereq., 387 or 388. (1st sem., yearly.)

## 395. HISTORIOGRAPHY AND METHODOLOGY (4)

*Stevens, staff*

An introduction to the technique of historical investigation with practice in historical criticism and writing. Prereq., 15 hrs. (1st sem., yearly.)

## 398. SEMINAR IN HISTORY (1 to 3)

*Cady*

Reports based upon original research with group discussion and criticism. Maximum credit in course, 6 hrs. Prereq., 15 hrs., permission. (2nd sem., yearly.)

## 492. PROBLEMS IN AMERICAN HISTORY (2-3)

*Staff*

A course of intensive reading focusing upon the interpretive literature of American history from the colonial period to the present day. Prereq., permission.

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## HOME ECONOMICS

Child Development and  
Family Life Education

## Foods and Nutrition

## Home Economics Education

## Housing and Home Management

## Food Service Management

## Textiles and Clothing

## Inter-Disciplinary Program

*Professors V. M. Roberts (director), Womble*  
*Associate Professors Bane, Sellers*  
*Assistant Professors Dorse, Langford,*  
*Lewis, Macauley, Nehls, Rogers*  
*Instructors Lockard, Reese*

A student desiring a master's degree with a major in home economics must have a minimum of 18 semester hours of undergraduate preparation in the field of home economics in which he wishes to specialize and/or in approved related fields. For a graduate program in Home Economics Education, the student is required to have a minimum of 24

hours distributed among at least three areas of home economics.

A student desiring a graduate minor in home economics must have a minimum of 12 semester hours of undergraduate preparation in the field of home economics in which he wishes to specialize and/or in approved related fields. Eight to twelve hours of work in one area of home economics and/or a related field constitute a minor. The student must meet the prerequisites for the courses chosen.

All graduate programs in home economics are planned by the student and his adviser, taking into consideration the undergraduate training and the professional goals of the student. Requirements vary, depending upon the type of program selected — (a) with thesis, (b) without thesis, or (c) inter-disciplinary program.

### HOME ECONOMICS

360. WORKSHOP IN HOME ECONOMICS (1 or 2)  
Special workshops to aid the home economics teacher. The areas of study include:

- a. HOME ECONOMICS EDUCATION
- b. CLOTHING AND TEXTILES
- c. FOODS AND NUTRITION
- d. CHILD DEVELOPMENT
- e. CONSUMER EDUCATION
- f. HOME FURNISHINGS
- g. HOME MANAGEMENT
- h. HOUSEHOLD EQUIPMENT
- i. SCHOOL LUNCH MANAGEMENT
- j. FAMILY LIFE EDUCATION

Maximum credit toward graduate degree, 6 hrs. Prereq., teaching experience or qualifications for certification to teach home economics. (Summer only.)

381. RESEARCH IN HOME ECONOMICS (2 or 3)  
*Staff*

A project course in which the student carries on independent investigations under the guidance of the instructor. Maximum credit in course, 6 hrs. Prereq., permission.

390 a,b,c,d,e,f. FIELD WORK IN  
HOME ECONOMICS (2 to 4)  
*Staff*

- a. HOME ECONOMICS EXTENSION
- b. HOME SERVICE WORK WITH PUBLIC UTILITIES
- c. FOOD SERVICE MANAGEMENT
- d. RETAIL MERCHANDISING
- e. RADIO-TELEVISION
- f. CHILD AND FAMILY DEVELOPMENT

Through cooperation with business organizations, department stores, radio-television stations, the Home Economics Extension Department of Ohio State University, and the Merrill-Palmer Institute, opportunities are given for on-the-job training and practical experience. The faculty adviser serves as coordinator of the work established with these outside agencies. Prereq., permission.

391. SEMINAR IN HOME ECONOMICS (1 or 2)  
*Staff*  
Prereq., approval by chairman of department in which work is performed.

495. THESIS (As recommended by dept.)  
*Staff*  
Prereq., approval by chairman of department in which work is performed.

### CHILD DEVELOPMENT AND FAMILY LIFE EDUCATION

*Mr. Womble (chairman)*

370. FAMILY LIFE EDUCATION (3)  
*Womble*  
An examination of attitudes, relationships, and practices within the family group as a means of gaining a deeper understanding of dynamics of family living in our changing society. A development of methods and techniques of presenting family living in the home economics curriculum.

375. READINGS IN INFANT AND  
CHILD DEVELOPMENT (2 or 3)  
*Staff*  
An intensive study through library research of a phase of child and infant development. Weekly conferences. Maximum credit in course, 6 hrs. Prereq., permission.

376. READINGS IN FAMILY LIVING (2 or 3)  
*Womble*  
An intensive study through library research of problems in family living. Weekly conferences. Maximum credit in course, 6 hrs. Prereq., permission.

377. CREATIVE EXPERIENCES WITH  
YOUNG CHILDREN (3)  
*Nehls*  
Evaluation of pre-school children's total growth and development through planned experiences with literature, science, music, dramatic play, graphic and plastic art media, and outdoor equipment. Emphasis on stimulating the child's participation in creative activities. One hour lecture, two consecutive hours laboratory experience and three hours direct experience in the nursery school.

378. ADMINISTRATION OF GROUP CARE  
OF YOUNG CHILDREN (3)  
*Lockard, Nehls*  
The organization and administration of Nursery School. Prereq., permission. (2nd sem.)

379. GUIDANCE OF NURSERY SCHOOL CHILDREN  
(2 to 6)  
*Lockard, Nehls*  
Teaching and guiding in the nursery school, with participation in all phases of the nursery school program. Experience in planning and supervising activities and feeding of nursery school children. Two hours lecture and fifteen hours laboratory experience in the nursery school. Prereq., 377, permission.

### 380. PRENATAL AND INFANT DEVELOPMENT (3) *Staff*

Patterns of development during the prenatal and infancy period to the year two. Changing physical and emotional needs and variables affecting development. Delineation of home and agency responsibilities for providing an environment conducive to achieving optimum development. Prereq., 375, permission.

### 471. PARENT EDUCATION (2)

*Staff*  
Principles in Child Development and Family Living applied to professional work in organizing, formulating, and conducting discussion groups, classes, programs and conferences for parents and youth leaders, laboratory experience in conducting parent-teacher conferences. Prereq., 375, permission.

### 472. ADVANCED CHILD DEVELOPMENT (3)

*Staff*  
Understanding the developmental characteristics of the preadolescent and the adolescent child with emphasis upon home, family and community experiences. Focus upon the part the adolescent's family plays in his development and ways in which parents can foster the optimum development of both themselves and their teenagers. The course also aims at the student's better understanding of himself as one who has just left adolescence or as one who is working with adolescents. Observation and/or participation in leading youth activities in the community. Prereq., 375, and 376 or 380, or Ed. 303, permission.

### 477. SPECIAL STUDIES IN FAMILY RELATIONSHIPS (2 or 3)

*Womble*  
Prereq., 12 hours psychology, sociology and/or human relations.

### 478. SPECIAL STUDIES IN INFANT AND CHILD DEVELOPMENT (2 or 3)

*Staff*  
Prereq., permission.

## FOODS AND NUTRITION

*Miss Lewis (chairman)*

### 320. CREATIVE COOKERY AND MEAL MANAGEMENT (3 or 4)

*Roberts*  
An advanced course emphasizing the creative, scientific, and artistic phases of food preparation and meal management. Prereq., permission. (Summer only.)

### 322. EXPERIMENTAL COOKERY (3)

*Lewis*  
Group and individual experiments on selected problems of food preparation. 1 lec., 4 lab. Prereq., Organic Chemistry.

### 325. COMPARATIVE STUDIES IN FOODS (3)

*Lewis, Macauley*  
An advanced course in food preparation including comparative cookery and home food preservation. Factors affecting palatability and retention of nutrients in foods will be considered. 1 lec., 4 lab.

### 326. ADVANCED NUTRITION (3)

*Roberts*  
Principles of nutrition as applied to the feeding of individuals and families under varying conditions. 1 lec., 4 lab. (1st sem.)

### 328. RECENT DEVELOPMENTS IN FOODS AND NUTRITION (3)

*Roberts*  
Reports, discussions, and reviews of scientific literature. Some laboratory projects may be included. (Summer only.)

### 329. NUTRITION IN DISEASE (2)

*Roberts*  
Application of principles of nutrition to the feeding of individuals and the use of diet in prevention and treatment of disease. Problems in planning and preparing therapeutic diets. 1 lec., 3 lab. Prereq., 326. (2nd sem.)

### 340. PROBLEMS IN FOODS AND NUTRITION (2 or 3)

*Lewis, Macauley, Roberts*  
A comprehensive study of nutrition, experimental foods, food or nutrition analysis, or food service management. Maximum credit in course, 6 hrs. Prereq., permission.

### 433. SPECIAL PROBLEMS IN CHEMISTRY OF FOODS AND NUTRITION (2 or 3)

*Lewis, Roberts*  
An intensive study of a phase of food chemistry or nutrition. Maximum credit in course, 6 hrs. Prereq., 322 or 326.

## HOME ECONOMICS EDUCATION

*Miss Sellers (chairman)*

### 350. PROBLEMS IN TEACHING OF HOME ECONOMICS (1 to 3)

*Sellers*  
Opportunity for individual selection of problems. Maximum credit in course, 6 hrs. Prereq., permission.

### 367. VOCATIONAL HOME ECONOMICS (3)

*Sellers*  
History and philosophy of vocational home-making education. Contemporary trends, methods, sources of materials, and evaluation. Observation arranged. Prereq., permission. (Summer only.)

## 368. DEMONSTRATION TECHNIQUES (2)

*Lewis, Roberts*

Practical experience in the demonstration of foods, equipment, or clothing. Planned for those going into secondary education or consumer service positions. 4 lab.

## 369. HOME ECONOMICS IN ADULT EDUCATION (3)

*Sellers*

Organization procedures, curriculum materials, and methods of conducting adult education groups in the field of education for family living.

## 450. SPECIAL PROBLEMS IN TEACHING OF HOME ECONOMICS (2 or 3)

*Sellers*

Intensive study of some phase of home economics education. Maximum credit in course, 6 hrs. Prereq., teaching experience in home economics.

## 460. SUPERVISION IN HOME ECONOMICS (3)

*Sellers*

Leadership functions, principles, and practices involved in effective supervision in the field of home economics. Designed for those interested in supervising student teachers or in-service programs at the local, state, or national level. Prereq., teaching experience in home economics.

## 461. HOME ECONOMICS IN HIGHER EDUCATION (3)

*Sellers*

Basic philosophy and issues concerning the place of home economics in higher education today. General trends in curriculum offerings, teaching practices, evaluation, administration, and research. Designed for those interested in teaching home economics at the college level. Prereq., a minimum of 24 hours in home economics.

## HOUSING AND HOME MANAGEMENT

*Mrs. Rogers (chairman)*

## 330. WORKSHOP IN HOME FURNISHINGS (3)

*Langford*

Laboratory problems in advanced techniques in home furnishings, including upholstering, slip-covering, refinishing furniture, and making draperies. 1 lec., 4 lab.

## 331. ADVANCED HOME FURNISHINGS (2)

*Langford*

A study of the qualities and styles of furnishings. Problems on china, glass, silver, furniture, bedding, rugs, etc. 1 lec., 2 lab. Prereq., 330.

## 334. HOUSEHOLD EQUIPMENT (3)

*Macauley*

A critical analysis of the use of home equipment to establish standards for effective use. 1 lec., 4 lab.

## 351. HOME MANAGEMENT (2)

*Rogers*

Economic use of time, energy, and money in the successful functioning of the home from the viewpoint of the satisfaction of members of the family.

## 353. HOME MANAGEMENT LABORATORY (3)

*Rogers*

Residence in the home management house for half a semester provides experience in the use of human and material resources of the family for the optimum development of its members. A charge is made to cover room and board. Prereq., 351 or with 351, permission.

## 452. SPECIAL PROBLEMS IN HOUSEHOLD EQUIPMENT AND/OR HOME MANAGEMENT (2 or 3)

*Macauley, Rogers*

Maximum credit in course, 6 hrs. Prereq., 334, 353.

## FOOD SERVICE MANAGEMENT

*Mrs. Macauley (chairman)*

## 327. QUANTITY COOKERY (3)

*Macauley*

Preparation and serving of foods in large quantities. Use of modern equipment. Laboratory practice in the cafeteria and residence halls of Ohio University.

## 342. MARKETING AND FOOD COST CONTROL (2)

*Macauley*

Studies in production, distribution and storage of food supplies to serve as a basis for the purchase of such commodities for quantity use. Record keeping involved in food service. 1 lec., 2 lab. Prereq., 327.

## 343. EQUIPMENT AND FURNISHINGS (2)

*Macauley*

Kitchen planning and selection of equipment including materials, construction, installation, operation, care, and relative cost; floor plans and specifications. 1 lec., 2 lab. Prereq., 327.

## 348. ORGANIZATION AND MANAGEMENT (3)

*Macauley*

Principles of organization and administration which apply to food units in school lunch rooms, and public and private institutions. Administration of labor; standards of work; cost control. Prereq., 327.

## TEXTILES AND CLOTHING

*Miss Bane (chairman)*

## 300. NEW DEVELOPMENTS IN TEXTILES (2)

*Doxsee*

New developments in textile fibers with special emphasis on new fibers, their characteristics, uses, and care. (Summer only.)



301. TECHNIQUES IN TEACHING  
CLOTHING CONSTRUCTION (1 to 3)

*Bane*

Special problems in sizing, alteration, fitting, and construction as applied to teaching the high school student. Prereq., 316 or equivalent, teaching experience or certification to teach home economics. (Summer only.)

302. TECHNIQUES IN TEACHING  
CLOTHING SELECTION (1)

*Bane*

Methods of presenting clothing selection on the high school level with emphasis on psychological and economic aspects of clothing. Consumer and market trends to be included. Prereq., 316 or equivalent, teaching experience or certification to teach home economics. (Summer only.)

310. TECHNIQUES IN CLOTHING DESIGN (3)

*Bane*

An advanced course in clothing that offers opportunity for creative expression and for an understanding of patterns through the medium of flat pattern design. 2 lec., 4 lab.

313. CLOTHING AND TEXTILES FOR THE  
CONSUMER (2)

*Doxsee*

Problems presented to the buyer and the consumer in purchasing textile products such as lingerie, home-furnishing fabrics, ready-to-wear, and accessories.

314. FASHION MERCHANDISING (3)

*Bane*

A study of retail practices related to the field of fashion. Publicity and promotion, stock control, buying and selling of fashion merchandise.

315. HISTORY OF COSTUME AND TEXTILES (2)

*Doxsee*

Study of costume and textiles through the ages as a basis for the understanding and application of present-day costumes.

316. TAILORING (3)

*Bane*

Tailoring of suits or coats. Emphasis placed on professional techniques, advanced fitting problems, and construction of high fashion garments. 6 lab. and demonstration.

318. ADVANCED TEXTILES (3)

*Doxsee, Reese*

Physical and chemical examination of fibers and fabrics. Problems in the comparison and evaluation of fabrics. 1 lec., 4 lab. (1st sem.)

319. ADVANCED STUDIES IN TEXTILES (3)

*Doxsee, Reese*

Application of testing techniques applied to specific textile studies. 1 lec., 4 lab. (2nd sem.)

## HUMAN RELATIONS

*Professor B. R. Black (chairman)*

*Associate Professors Carew, Ostlund*

*Assistant Professor Griffis*

*Instructors E. Anderson, Sheeder, Woodard*

Students who desire to major in human relations will be accepted on the basis of an interview with the graduate committee of the department.

The undergraduate preparation of the student should consist of not fewer than 18 hours in social sciences and specific preparation in the appropriate field or area of interest in human relations. In rare and unusual cases the graduate committee of the department may accept other training and experience in lieu of some of the above requirements.

A major in human relations leading to the Master of Arts degree shall consist of a minimum of 18 hours in courses approved by the graduate committee of the department, including 303 and 304 if the student has not taken these courses on the undergraduate level.

For a minor in human relations, the student is required to have the prerequisites for each course approved for the minor program.

303-304. HUMAN RELATIONS (3-3)

*Black, Carew, Ostlund, Sheeder, Woodard*

A course taught by the case method, designed for students interested in studying the habits and skills of analysis, judgment, and action important to people in all walks of life. (303, each semester; 304, 2nd sem., yearly.)

325. FIELD WORK OR RESEARCH (1 to 3)

*Staff*

An opportunity for individual work in a specialized area of human relations; field work in human relations; or research under the direction of the staff. Maximum credit in course, 5 hrs. Prereq., 303, permission. (each sem.)

384. GROUP DYNAMICS (3)

*Carew, Ostlund*

Principles and techniques used in research concerning groups and their members. The content includes variables such as structure, process, products, and changes, as well as a background of history, theories, techniques, and applications of group dynamics. (2nd sem., yearly.)

486, 487. PRACTICUM IN STUDENT PERSONNEL  
ADMINISTRATION (3, 3)

*Griffis*

Practice in working under supervision in residence halls, fraternities, sororities, environmental health, off-campus housing, student government, student organizations, offices of the personnel deans, foreign student advising and programming, student discipline, extra-curricular activities, student publications, campus religious affairs. Prereq., sec-

ond and third year graduate students in human relations and in student personnel services; permission. (Yearly.)

491. SEMINAR IN HUMAN RELATIONS (3)  
*Ostlund*

The course will offer lectures and a practicum in experimentation and research writing in the social sciences. Students will present projects for class analysis. Prereq., 303, permission. (1st sem., yearly.)

493, 494. SEMINAR IN STUDENT PERSONNEL ADMINISTRATION (3, 3)  
*Black, Carew*

Designed for those specializing in student personnel work. Emphasis on philosophy and current trends in student personnel work and administrative procedures for effective coordination within a student personnel program. Prereq., 18 hrs. social sciences, permission. (Yearly.)

495. THESIS (As recommended by dept.)  
*Staff*  
Prereq., permission.

## INDUSTRIAL ARTS

*Professor Perry (chairman)*

*Associate Professors Hawlk, Paige*

*Assistant Professors Covert, Shull, Squibb*

A student electing a graduate major in industrial arts shall have completed an undergraduate minor of 27 hours in industrial arts or its equivalent as determined by the graduate committee of the Industrial Arts Department.

To begin a graduate minor in industrial arts, the student will be expected to have a minimum of nine hours of approved work.

361. DEVELOPMENT OF TEACHING AIDS FOR INDUSTRIAL EDUCATION (2)  
*Paige, Squibb*

Construction of aids based upon analysis of teaching situations. 4 lab. Prereq., teaching experience.

362. PROJECT DEVELOPMENT (3)  
*Staff*

Development of original projects with related instructional materials applicable to selected areas of industrial arts.

380. WORKSHOP IN DRIVER EDUCATION (1 to 3)  
*Covert, Moore*

A course for teachers. Activity guided by problems in present programs. Prereq., certification in driver education. (Summer only.)

390. SPECIAL PROBLEMS IN INDUSTRIAL ARTS (2 or 3)  
*Staff*

Research on selected problems.

403. CURRENT TRENDS AND DEVELOPMENTS IN INDUSTRIAL EDUCATION (2)  
*Staff*

New developments and undertakings in the field of industrial education as interpreted by visiting personnel.

426. HISTORY AND PHILOSOPHY OF INDUSTRIAL EDUCATION (3)  
*Hawlk*

450 a,b,c,d. ADVANCED WORK IN WOOD, METAL, GRAPHIC ARTS, OR POWER (2)  
*Staff*

May be repeated in different areas for a maximum credit of 6 hours. 4 lab. Prereq., basic preparation in chosen area.

457. PROGRAM PLANNING IN INDUSTRIAL ARTS (3)  
*Perry*

Planning industrial arts curricula for specific schools.

471. ADMINISTRATION AND SUPERVISION OF INDUSTRIAL EDUCATION (2 or 3)  
*Squibb*

Problems and practices of supervising vocational and nonvocational industrial education in the public schools.

481. RESEARCH IN INDUSTRIAL ARTS (1 to 3)  
*Perry*

A written report of the investigation is to be presented to the departmental graduate committee. May be repeated for maximum credit of 6 hours. Prereq., Ed. 488.

491. SEMINAR IN INDUSTRIAL ARTS EDUCATION (1 to 3)  
*Staff*

May be repeated for maximum credit of 6 hours.

495. THESIS (As recommended by dept.)  
*Staff*

Prereq., permission.

## JOURNALISM

*Professors Baird, Hortin (director), Turnbull*  
*Associate Professors Gentry, Sargent, Stempel,*  
*Wagner*

*Assistant Professors Click, Kliesch*

The School of Journalism offers graduate work in all its five sequences: (1) News Writing and Editing, (2) Advertising-Management, (3) Magazine Journalism, (4) Public Relations, (5) and Radio-Television News.

To begin a graduate major, a student should have a minimum of 12 hours of basic journalism courses and 6 additional hours of approved work in journalism or related fields.

To begin a graduate minor in journalism, courses prescribed as prerequisites, or approved equivalents are required. These prerequisites usually total 6 to 12 hours.

### 303. TELEVISION NEWS PRODUCTION (2)

*Wagner*

The preparation and production of television news. Experiments in visual presentation of news and discussion of the organization and policies of the television newsroom. Prereq., permission.

### 304. SEMINAR IN BROADCAST NEWS (2)

*Wagner*

Discussion of problems—operational, social, legal and ethical—faced by broadcasters covering today's news. Prereq., permission.

### 306. NEWSPAPER AND COMMUNICATIONS LAW (2)

*Hortin, Sargent*

Principles and case studies of the law of the press with emphasis on constitutional guarantees, libel, contempt, privacy, copyright, privilege, and administrative controls. Some consideration of regulations pertaining to radio and television.

### 307. REPORTING OF PUBLIC AFFAIRS (2)

*Gentry*

Includes a study of governmental, civil, and business organizations: courts, legal procedure, city and county government, state and national organizations, banks, political parties, and community activities.

### 309. RADIO-TELEVISION ADVERTISING AND MANAGEMENT (3)

*Turnbull*

A study of the business principles and practices in the broadcasting industry, dealing with problems in radio and television station operation, with major emphasis on time sales.

### 322. FEATURE AND MAGAZINE WRITING (3)

*Baird, Sargent*

A study of newspaper, magazine, and pictorial features, followed by practice in writing and marketing of various types. The course includes finding subjects, securing photographs, writing articles, and surveying markets. Prereq., permission.

### 323. ADVANCED FEATURE AND MAGAZINE WRITING (2)

*Gentry, Kliesch*

Students are permitted wide range in selecting feature subjects. High-grade writing is stressed with definite idea of publication. Prereq., 322.

### 325. THE EDITORIAL PAGE (2)

*Gentry*

A study of the editorial page as to purpose, style, and effect. Training is given in writing interpretive news articles, columns, and all types of editorials. Prereq., permission.

### 327. PUBLIC RELATIONS PRINCIPLES (3)

*Hortin*

Study and practice of fundamental public relations functions. Emphasis is placed on polling, publicity writing, and preparation of literature of business organizations—house organs, reports, pamphlets, advertisements, leaflets, manuals, and letters. Prereq., permission.

### 328. ADVANCED PUBLIC RELATIONS (3)

*Hortin, staff*

A study of advanced public relations problems, policies, and practices of various institutions and organizations in modern society. Attention is focused on public relations program development. Prereq., 327 or permission.

### 329. INDUSTRIAL AND BUSINESS MAGAZINES (2)

*Baird, Click*

Study of industrial, business, and institutional publications. Analysis of contents, purposes, and readership of such publications. Practice in copy preparation and make-up. Staff, costs, printing, and circulation are considered.

### 343. NEWSPAPER MANAGEMENT (2)

*Turnbull*

A study of the problems and economics of publishing. Consideration is given to policy making as it affects all departments of the newspaper plant.

### 348. ADVERTISING PRODUCTION (2)

*Turnbull*

Study of mechanical, graphic, and creative methods of advertising production; comparative analysis of printing processes; relation of color, art work, type, media, and quality of paper to advertising purpose; study of cost and controls. Prereq., Advt. 332 or permission.

### 370. INTERNSHIP (3)

*Hortin, staff*

A conference course open only to students who have completed their internship work with an approved organization. Students will submit a comprehensive report involving analysis and problems encountered during the summer training. Prereq., permission.

### 375. SPECIALIZED JOURNALISM (3)

*Click, Wagner, staff*

A course designed for students desiring training in special fields—science, sports, society, politics, military, home economics, agriculture, religious activities, teaching journalism, music, and other approved areas. Prereq., permission.

### 376. GRAPHIC PRODUCTION PROCESSES (3)

*Turnbull, staff*

Advanced study of all processes for reproducing the printed word and pictures, including photoengraving, lithography, letterpress, rotogravure, mimeographing, and duplicating. Emphasis is placed on developing a thorough

understanding of the latest developments in each field as they affect editing, advertising, public relations, and television news. Includes theory and laboratory work in preparation of written and photographic copy for each process. Prereq., permission.

378. SUPERVISING SCHOOL AND COLLEGE PUBLICATIONS (3)

*Baird, staff*

A conference course for advisers of high school and college newspapers, magazines, and year-books. Problems relating to staff selection, content of publications, copy, layout, photography, printing, advertising, and business phases. In summer sessions the Publications Workshop will be analyzed on a case study basis. Prereq., permission.

381. RESEARCH IN JOURNALISM (1 to 8)

*Sargent, staff*

Prereq., permission.

403. SEMINAR IN THEORY OF MASS COMMUNICATIONS (3)

*Gentry, Kliesch, Sargent, Stempel*

Examination and discussion of problems of mass communications, their role as social institutions, their control and support, and their effects. Study of thesis writing and selection of a thesis problem. Prereq., permission.

405. SEMINAR IN RESEARCH METHODS (3)

*Sargent, Stempel*

A study of the methods of empirical research in mass communications: research techniques, readership studies, readability formulas, content analysis, questionnaire techniques and interviews. Prereq., 403 or permission.

406. INTERNATIONAL COMMUNICATIONS (3)

*Kliesch, staff*

A study of the development and operation of the mass communications channels and agencies by which news is gathered and disseminated throughout the world. A comparative analysis of media practices and the flow of news among various major countries. The relation of communication practices to international policies and programs. Prereq., permission.

409. LITERATURE OF JOURNALISM (3)

*Gentry, Kliesch, Stempel*

Directed reading and discussion of outstanding professional literature in the field of journalism. Prereq., permission.

425. GOVERNMENT AND MASS COMMUNICATIONS (3)

*Sargent, Stempel*

Communications and political order, theory and structure of democratic and totalitarian communications systems, relationship between government and mass communications in the modern world. Prereq., permission.

495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## LATIN

(See Classical Languages)

## LINGUISTICS

(See English)

## MANAGEMENT

(Minor only)

*Professor Hellebrandt*

*Assistant Professors Bolon (chairman), Panico, Weaver*

*Instructors Sevier, Stinson*

To begin a minor in management, a student must have completed Principles of Economics and Industrial Management.

301-302. PRODUCTION (3-3)

*Hellebrandt, Smith, Stinson*

301. The productive process and its place in business activity. 302. Prereq., 301 or permission.

308. PRODUCTION PLANNING AND CONTROL (3)

*Smith, Stinson*

Development of a scientific approach to the solution of planning and control problems in any type of production or management activity. Prereq., permission.

310. MANAGEMENT RESPONSIBILITIES IN SOCIETY (3)

*Staff*

Prereq., permission.

312. ADMINISTRATION OF PERSONNEL (3)

*Bolon*

A detailed study of a realistic compendium of practices in the field of personnel management. Includes in-basket training, stress interviewing, and group oral performance testing. Prereq., permission.

314. PERSONNEL MANAGEMENT PROBLEMS (3)

*Bolon*

A detailed study of personnel problems and their relation to various personnel management principles dealing with such subjects as induction and training, transfers and promotions, and morale. Taught by case method. Prereq., 312 or permission.

## 321. MOTION AND TIME STUDY (3)

*Smith, Stinson*  
An introduction to methods, time study, and wage payment. Includes considerable practical as well as theoretical work in the areas of operation analysis, motion study, micromotion study, predetermined time systems, stop watch time study, standard data, and work sampling. Prereq., 301 or permission.

## 325. INDUSTRIAL RELATIONS (3)

*Hellebrandt*  
Objectives, establishment, and procedures of collective bargaining; administration of collective bargaining agreements; labor-management cooperation; the methods of conciliation, mediation, and arbitration of disputes. Taught by case method.

## 330. INFORMATION MANAGEMENT (3)

*Weaver*  
Analysis of basic data processing activities and of information flows in a business organization within the total system framework and the concept of rhocrematics. Use of systems-analysis, cases, and individual research problems. Prereq., permission.

## 332. WAGE AND SALARY ADMINISTRATION (3)

*Bolon*  
The factors determining industrial wage and salary policies, methods of employee payments, wage relationships, wage rate setting, incentive wage plan. Techniques and methods of implementing wage and salary policies. Lab. oriented. Prereq., 312 or permission.

## 340. ORGANIZATION THEORY (3)

*Weaver*  
Development of behavioral, quantitative, decision theory, and network-analysis contributions to business organization theory within general systems theory framework. Prereq., permission.

## 345. ADVANCED PRODUCTION PROBLEMS (3)

*Hellebrandt, Stinson*  
Production problems in a number of different industries; designed to apply to all phases of the student's training and experience. Prereq., 302, or permission.

## 350. ELECTRONIC DATA PROCESSING (3)

*Weaver*  
The effect of computers on business management and organization. Includes the use of the incident process and case studies. Prereq., permission.

## 360. OPERATIONS RESEARCH (3)

*Panico*  
The objectives of operations research in objective decision making, including consideration of techniques. Prereq., permission.

## 380. ADMINISTRATIVE POLICY (3)

*Staff*  
The integration of the subject matter in the functional areas of the core curriculum and interrelationships among the problems of top management, organization, administration techniques, and policy formulation. Prereq., permission.

## 381. RESEARCH IN MANAGEMENT (1 to 8)

*Staff*  
Prereq., 301 or 312, and permission.

## 391. SEMINAR IN MANAGEMENT (2 to 4)

*Staff*  
Maximum credit in course, 10 hrs. Prereq., 15 hrs. management and/or economics and permission.

## 410. BUSINESS POLICY (3)

*Bolon, Hellebrandt, Panico, Weaver*  
A top management view of decision making affecting the future operations of a business, and the opportunities, risks and responsibilities accompanying the formulation of company policy. Prereq., 12 hrs. graduate credit in business administration including economics.

## 481. RESEARCH, ANALYSIS AND REPORT WRITING (3)

*Krauskopf*  
Prereq. permission.

## 491. SEMINAR IN MANAGEMENT (2 to 4)

*Staff*  
Maximum credit in course, 8 hrs. Prereq., permission.

## 495. THESIS (As recommended by dept.)

*Staff*  
Prereq., permission.

## MARKETING-ADVERTISING

(Minor only)

To begin a minor in marketing-advertising for degrees other than the Master of Business Administration, only the completion of basic courses satisfactory to the department is necessary.

## MARKETING

*Professor Krauskopf (chairman)*  
*Associate Professor Raymond*  
*Assistant Professors Day, Hewitt, Muse, Richmond*

## 301. RETAIL SELLING POLICIES (3)

*Hewitt*  
The organization and operation of retail institutions.

302. RETAIL BUYING AND STOCK CONTROL (3)  
*Hewitt*  
A study of buying, receiving, and stock control practices in retail stores. Prereq., 301.

311. RECENT TRENDS IN MARKETING AND SELLING (3)  
*Krauskopf*

325. INDUSTRIAL MARKETING (3)  
*Day, Muse, Raymond*  
A consideration of the problems involved in the marketing of industrial goods.

326. INDUSTRIAL PURCHASING (3)  
*Muse*  
A study of the procedures and problems involved in the procurement of industrial goods.

341. FOREIGN TRADE (3)  
*Day*  
A study of the theories of foreign trade and of the problems of concerns engaged in importing and exporting.

346. FOREIGN MARKETS (2)  
*Day*  
A study of foreign markets from the point of view of the American exporter.

381. RESEARCH IN MARKETING (1 to 8)  
*Staff*  
Prereq., permission.

391. SEMINAR IN MARKETING (2 to 4)  
*Staff*  
Maximum credit in course, 10 hrs. Prereq., permission.

458. MARKETING MANAGEMENT (3)  
*Raymond*  
Cases and problems involving management decisions concerning trade channels, pricing, product development, sales organization, and sales promotion.

491. SEMINAR IN MARKETING (2 to 4)  
*Staff*  
Maximum credit in course, 8 hrs. Prereq., permission.

495. THESIS (As recommended by dept.)  
*Staff*  
Prereq., permission.

## ADVERTISING

*Professors Krauskopf (chairman), Turnbull*  
*Associate Professor Raymond*  
*Assistant Professor Richmond*

332. COPYWRITING (2)  
*Turnbull*  
The elementary essentials of copy developed by the study of current theory and analysis of tested examples. Considerable constructive work is required.

376. ADVERTISING PROBLEMS (3)  
*Krauskopf, Richmond*  
Emphasizes administrative problems and the coordination of advertising with other marketing activities.

381. RESEARCH IN ADVERTISING (1 to 8)  
*Staff*  
Prereq., permission.

391. SEMINAR IN ADVERTISING (2 to 4)  
*Staff*  
Maximum credit in course, 10 hrs. Prereq., permission.

495. THESIS (As recommended by dept.)  
*Staff*  
Prereq., permission.

Additional courses:

- Jour. 309—Radio-Television Advertising and Management  
Jour. 327—Public Relations Techniques  
Jour. 328—Public Relations  
Jour. 348—Advertising Production

## MATHEMATICS

*Professors Butner, Denbow, Fishback (chairman), Goedicke*  
*Associate Professors Jasper, Spring*  
*Assistant Professors Eldridge, Golos, Mehr*  
*Instructors Irwin, Lifsey, Shankar, Wyzalik*

A student may begin a graduate major with 21 hours of mathematics, including the equivalent of at least two 300 level courses. Completion of courses 322, 342, and six hours chosen from 343, 444, 446, and 447 is required of all master's degree candidates.

301. ARITHMETICAL AND ALGEBRAIC SYSTEMS (3)

*Butner, Golos*  
Properties and structures of number systems; selected topics from theory of equations and linear algebra. (Each sem.)

308. PROJECTIVE GEOMETRY (3)  
*Fishback*  
(2nd sem., 1966-67.)

311. NUMERICAL ANALYSIS (3)  
*Goedicke, Irwin*  
An investigation of numerical methods for approximate solution of applied problems. Topics will include interpolation theory, curve

fitting, approximate integration, and the numerical solution of differential equations. (1st sem., 1966-67.)

313. VECTOR ANALYSIS (2) *Goedicke, Wyzalik*  
(1st sem., yearly.)

314. FOURIER ANALYSIS AND PARTIAL  
DIFFERENTIAL EQUATIONS (2) *Shankar*  
(Each sem.)

318. PRINCIPLES OF DIGITAL COMPUTER  
PROGRAMMING (3) *Irwin, Spring*

Prereq., 311. (2nd sem., yearly.)

321. MATRIX THEORY (3) *Eldridge, Spring*  
Matrix algebra and determinants, linear equations, vector spaces and linear transformations, characteristic equations, and quadratic forms. (1st sem., yearly.)

322. INTRODUCTION TO MODERN ALGEBRA (3) *Eldridge, Spring*  
Elementary theory of groups, fields, and rings. Prereq., 301, or 321. (2nd sem., yearly.)

331-332. THEORY OF STATISTICS (3-3) *Butner, Mehr*  
Probability, distributions of one and several variables, sampling theory, estimation of parameters, confidence intervals, analysis of variance, correlation and testing of statistical hypotheses. (Yearly.)

341-342. ADVANCED CALCULUS (3-3) *Wyzalik*  
Critical treatment of limits, continuity, differentiation of functions of one and several variables, series, and theory of integration. (Yearly.)

343. THEORY OF FUNCTIONS OF A COMPLEX  
VARIABLE, I (3) *Shankar*  
Prereq., 341. (1st sem., yearly.)

361. STUDIES IN MATHEMATICS (1 to 6) *Staff*  
Selected topics in mathematics are studied under the guidance of an instructor particularly interested in the field. Maximum credit, 6 hours. Prereq., permission of chairman.

362. SELECTED TOPICS IN MATHEMATICS (3) *Staff*  
Maximum credit in course, 6 hours. Prereq., permission. (Each sem.)

411. SPECIAL FUNCTIONS (3) *Fishback, Shankar*  
Basic theory of the special functions arising in advanced problems in mathematical physics. Prereq., 341 or 343, or the equivalent. (2nd sem., yearly.)

423. MODERN ALGEBRA (3) *Spring, Eldridge*  
Groups with operators, ideals, unique factorization domains, ring and field extensions, Galois theory. Prereq., 322. (1st sem., yearly.)

444. THEORY OF FUNCTIONS OF A COMPLEX  
VARIABLE, II (3) *Shankar*  
Prereq., 343. (2nd sem., 1966-67.)

446. THEORY OF FUNCTIONS OF REAL  
VARIABLES (3) *Wyzalik*  
Prereq., 341. (2nd sem., yearly.)

447. POINT SET TOPOLOGY (3) *Eldridge*  
An introduction to set theory and general topological spaces with an emphasis on the study of metric spaces. Prereq., 341. (1st sem., yearly.)

495. THESIS (As recommended by dept.) *Staff*  
Prereq., permission.

## MODERN LANGUAGES

French

German

Hausa

Russian

Spanish

*Professors Flum, Krauss, Renkenberger*  
(chairman)

*Associate Professors Cameron, Frink,*  
*Hammer, O'Nan, Ziomek*

*Assistant Professor Carrier*

*Instructors Burns, Conliffe, Ipacs, Silver*

To begin a graduate major in a modern foreign language, the student must have completed the requirements for the Bachelor of Arts major in that language or the equivalent.

To begin a graduate minor, the student must have completed a minimum of four hours of undergraduate work in the language at the 200 level or the equivalent.

Graduate students majoring in a modern foreign language are required to take courses 421-422 in that language.

## FRENCH

316. FRENCH RENAISSANCE (3)  
(1st sem., 1966-67.) *Staff*
317. FRENCH CLASSICISM (3)  
(2nd sem., 1966-67.) *Staff*
318. AGE OF ENLIGHTENMENT (3)  
(1st sem., 1967-68.) *Staff*
319. NINETEENTH CENTURY FRENCH LITERATURE (3)  
(2nd sem., 1967-68.) *Staff*
320. CONTEMPORARY FRENCH LITERATURE (3)  
(Yearly.) *Staff*
351. ADVANCED COMPOSITION AND STYLE (2)  
(1st sem., 1967-68.) *Staff*
352. ADVANCED CONVERSATION AND PHONETICS (2)  
(2nd sem., 1967-68.) *Staff*
- 371, 372. ADVANCED FRENCH (1 to 3, 1 to 3)  
(Given upon sufficient demand.) *Staff*
399. BIBLIOGRAPHY AND RESEARCH PROBLEMS (2)  
(Given upon sufficient demand.) *Staff*
- 401, 402. FRENCH FOR GRADUATE READING REQUIREMENT (3, 3) *Staff*  
Prereq., graduate standing or permission.  
(Credit does not count toward degree requirements.)
421. COMPARATIVE ROMANCE PHILOLOGY (3)  
*Staff*
422. ROMANCE PHILOLOGY (OLD FRENCH) (3)  
*Staff*
- 471, 472. READING AND RESEARCH (1 to 4, 1 to 4)  
*Staff*
- 481, 482. SEMINAR (2, 2)  
*Staff*
495. THESIS (As recommended by dept.) *Staff*  
Prereq., permission.

## GERMAN

- 311, 312. NINETEENTH CENTURY GERMAN DRAMA (3, 3)  
(1967-68.) *Staff*
313. CLASSICAL GERMAN DRAMA (3)  
(1st sem., 1966-67.) *Staff*
314. GOETHE'S FAUST (3)  
(2nd sem., 1966-67.) *Staff*
- 319-320. NINETEENTH CENTURY GERMAN PROSE (3-3)  
(1967-68.) *Staff*
321. CONTEMPORARY GERMAN PROSE (3)  
(2nd sem., 1966-67.) *Staff*
323. GERMAN LYRICS AND BALLADS (3)  
(1st sem., 1967-68.) *Staff*
326. TWENTIETH CENTURY DRAMA (3)  
(2nd sem., 1966-67.) *Staff*
327. BAROQUE AND ENLIGHTENMENT (3)  
(2nd. sem., 1967-68.) *Staff*
351. ADVANCED COMPOSITION AND STYLE (2)  
(1st sem., 1967-68.) *Staff*
352. ADVANCED CONVERSATION AND PHONETICS (2)  
(2nd sem., 1967-68.) *Staff*
- 371, 372. ADVANCED GERMAN (1 to 3, 1 to 3)  
(Given upon sufficient demand.) *Staff*
399. BIBLIOGRAPHY AND RESEARCH PROBLEMS (2)  
(Given upon sufficient demand.) *Staff*
- 401, 402. GERMAN FOR GRADUATE READING REQUIREMENT (3, 3) *Staff*  
Prereq., graduate standing or permission.  
(Credit does not count toward degree requirements.)
- 421-422. GERMANIC PHILOLOGY (MIDDLE HIGH GERMAN) (2-2)  
(1966-67.) *Staff*



471, 472. READING AND RESEARCH (1 to 4,  
1 to 4)

*Staff*

481, 482. SEMINAR (2, 2)

*Staff*

495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## HAUSA

301, 302. INTRODUCTION TO SPOKEN HAUSA  
(4, 4)

*Staff*

Semi-intensive introduction to the spoken language. Emphasis on oral drills with native informant, supplemented by grammar explanation with linguist. Prereq., permission.

## RUSSIAN

319, 320. NINETEENTH CENTURY RUSSIAN  
POETRY (3, 3)

*Staff*

Pushkin, Lermontov. (1966-67.)

321, 322. NINETEENTH CENTURY RUSSIAN  
NOVEL (3, 3)

*Staff*

Gogol, Turgenev, Tolstoy, Dostoevsky. (1967-68.)

371, 372. ADVANCED RUSSIAN (1 to 3, 1 to 3)

*Staff*

## SPANISH

301. ROMANTICISM AND COSTUMBRISMO (3)

*Staff*

(1st sem., 1966-67.)

302. NINETEENTH CENTURY SPANISH NOVEL  
(3)

*Staff*

(2nd sem., 1966-67.)

305. TWENTIETH CENTURY SPANISH DRAMA  
(3)

*Staff*

(2nd sem., 1967-68.)

306. THE GENERATION OF 98 AND AFTER (3)

*Staff*

(1st sem., 1967-68.)

307. SPANISH LITERATURE SINCE THE CIVIL  
WAR (3)

*Staff*

(2nd sem., 1967-68.)

311, 312. LATIN AMERICAN LITERATURE (3, 3)  
*Staff*  
(1967-68.)

320. NOVEL OF THE MEXICAN REVOLUTION (2)  
*Staff*  
(1st sem., 1966-67.)

325. CONTEMPORARY LATIN AMERICAN  
LITERATURE (2)

*Staff*

(2nd sem., 1966-67.)

351. ADVANCED COMPOSITION AND STYLE (2)  
*Staff*  
(1st sem., 1966-67.)

352. ADVANCED CONVERSATION AND  
PHONETICS (2)

*Staff*

(2nd sem., 1966-67.)

399. BIBLIOGRAPHY AND RESEARCH PROBLEMS  
(1 to 2)

*Staff*

Prereq., 3 hrs. at 300 level. (On demand.)

401, 402. SPANISH FOR GRADUATE READING  
REQUIREMENT (3, 3)

*Staff*

Prereq., graduate standing or permission.  
(Credit does not count toward degree requirements.)

405. DRAMA OF THE GOLDEN AGE (3)

*Staff*

Prereq., 4 hrs. at 300 level.

406. NOVEL OF THE GOLDEN AGE (3)

*Staff*

Prereq., 4 hrs. at 300 level.

408. CERVANTES (2)

*Staff*

Prereq., 4 hrs. at 300 level.

409. MEDIEVAL SPANISH LITERATURE (2)

*Staff*

Prereq., 2 hrs. at 300 level.

421. COMPARATIVE ROMANCE PHILOLOGY (3)

*Staff*

(Yearly.)

422. ROMANCE PHILOLOGY (OLD SPANISH)

*Staff*

471, 472. READING AND RESEARCH (1 to 4, 1  
to 4)

*Staff*

481, 482. SEMINAR (2 or 3)

*Staff*

- a. Drama of the Golden Age (3)  
(1st sem., 1966-67.)
- b. Novel of the Golden Age (3)  
(2nd sem., 1966-67.)
- c. Cervantes (2)  
(1st sem., 1967-68.)
- d. Literature of the Middle Ages (2)  
(2nd sem., 1967-68.)

495. THESIS (As recommended by dept.)  
Prereq., permission. Staff

## MUSIC

### Applied Music

### History and Literature

### Theory and Composition

### Music Education

*Professor Ahrendt (director)*

*Associate Professors Brophy, Conkling, Hall, Jennings, Minelli, P. Peterson, Stephenson*

*Assistant Professors Boxberger, Harbachick, Hodkinson, Kaneshige, G. Katz, Longstreet, Merritt, Perris, Sanov, R. Smith, Suess, Thackrey, Wickstrom, Witzler, Wurtz*

*Instructors Geary, S. Katz*

To major in music an applicant for admission is required to have finished successfully a four-year undergraduate curriculum in music from an institution which holds membership in the National Association of Schools of Music, or from any other accredited institution offering undergraduate music degrees equivalent in hours and content. In addition, all new graduate students are subject to a proficiency examination in general background, and in their major and minor areas. If deficient, the student will be required to take appropriate courses to remove the deficiency. This will be determined by examination during registration week, the results of which will be used to designate the program of study. In cases where the undergraduate preparation is not in the area planned for graduate study, the student must demonstrate a level of achievement fully equivalent to that provided by the bachelor's degree in the field concerned.

All graduate programs are based upon the completion of a minimum of 27 hours of work plus thesis, beyond the bachelor's degree. All programs are divided into a major and minor area. A student wishing to do graduate work in music composition or in applied music is required to take a minimum of 16 hours in the major area, while majors in music theory, the history and literature of music, and music education take from 20 to 24 hours in their major area. A thesis or its equivalent is required of all graduate students. An original composition in a large form in the case of

composition majors, or a graduate recital in the case of majors in applied music may be offered in lieu of thesis. In certain exceptional cases in which the student's advisory committee feels an unusual emphasis on applied music to be of special importance to the student's program of study, the student in music education may, on the recommendation of his advisors, apply to the Graduate Committee in Music for permission to present a graduate recital in lieu of thesis. The minor field may include any of the other areas offered in the School of Music. The minor in music education may include from 8 to 12 hours in another area of music, or in education.

## APPLIED MUSIC

Private instructional fee for all applied music (piano, voice, organ, strings, woodwind, brass, percussion), \$25 a semester hour.

(Note: A description of the proficiency requirements for applied music may be secured from the School of Music.)

### 331. PIANO ENSEMBLE (1)

*Staff*  
Participation in the playing of original works or arrangements for two pianos. Prereq., permission.

### 332. VOCAL ENSEMBLE (1)

*Staff*  
Participation in the singing of standard madrigal and motet literature. Prereq., permission.

### 375. ADVANCED CONDUCTING (1 to 4)

*Staff*  
An opportunity for study and practical experience in either choral or instrumental conducting. Maximum credit in course, 6 hrs. Prereq., permission.

### 399. APPLIED MUSIC a, b, c, d, e, f (1 to 4)

*Staff*  
Open to graduate students only, in the minor area. Maximum credit in course, 8 hrs.

- a. Voice
- b. Piano
- c. Stringed Instruments
- d. Woodwind Instruments
- e. Brass Instruments
- f. Percussion Instruments

### 431. VOICE (1 to 4)

*Harbachick, S. Katz, Merritt, Peterson*  
Maximum credit in course, 16 hrs. Prereq., permission.

### 433a. PIANO (1 to 4)

*Jennings, Katz, Longstreet, Geary*  
Maximum credit in course, 16 hrs. Prereq., permission.

## 433b. ORGAN (1 to 4)

*Wickstrom*  
Maximum credit in course, 16 hrs. Prereq., permission.

## 435. ENSEMBLE (1 to 4)

*Staff*  
Maximum credit in course, 16 hrs. Prereq., permission.

## 437. STRINGED INSTRUMENTS (1 to 4)

*Conkling, Sanov*  
Maximum credit in course, 16 hrs. Prereq., permission.

## 438. BRASS INSTRUMENTS (1 to 4)

*Brophy, Smith*  
Maximum credit in course, 16 hrs. Prereq., permission.

## 439. WOODWIND INSTRUMENTS (1 to 4)

*Hodkinson, Witzler*  
Maximum credit in course, 16 hrs. Prereq., permission.

## 495. RECITAL (1 to 4)

*Staff*  
A full-length public recital, a recording of which will be filed in the library, in lieu of thesis. Prereq., permission.

## MUSIC HISTORY AND LITERATURE

## 337. THE LITERATURE OF VOCAL MUSIC (2)

*Wortman*  
Representative literature from the fields of oratorio, choral music, and the art song.

## 338. THE LITERATURE OF ORCHESTRAL MUSIC (2)

*Suess*  
Orchestral literature from the classic through the contemporary.

## 339. THE EVOLUTION OF THE OPERA (2)

*Wortman*

## 340. THE LITERATURE OF PIANO MUSIC (2)

*Jennings*  
The development of the instrument, the primary forms adapted to it, and the representative composers.

## 344. CONTEMPORARY MUSIC (3)

*Suess*  
Music as an artistic expression of our time. A study of the various styles since c. 1900.

## 401-402. MUSIC LITERATURE (3-3)

*Suess*  
Prereq., permission.

## 441. MUSIC OF THE MEDIEVAL AND RENAISSANCE PERIODS (3)

*Wortman*  
Music as an artistic expression of the Medieval and Renaissance periods; a history of the evolution of musical styles up to c. 1600.

## 442. MUSIC OF THE BAROQUE PERIOD (3)

*Suess*  
Music as an artistic expression of the Baroque period; a history of the evolution of musical styles c. 1600-c. 1750.

## 443. MUSIC OF THE CLASSIC AND ROMANTIC PERIODS (3)

*Wortman*  
Music as an expression of the Classic and Romantic periods; a history of the evolution of musical styles c. 1750-c. 1900.

## 495. THESIS (As recommended by dept.)

*Staff*  
Prereq., permission.

## THEORY AND COMPOSITION

## 307-308. ARRANGING AND SCORING FOR BANDS (2-2)

*Minelli*  
Scoring and arranging for the modern marching and symphonic band.

## 313-314. ORCHESTRATION (2-2)

*Ahrendt, Hodkinson*  
Scoring for small, medium, and full orchestra.

## 315-316. ADVANCED HARMONY (2-2)

*Hall*  
The evolution of harmony to the present, including the new methods of chord structure in modern harmony.

## 317-318. SIXTEENTH CENTURY COUNTERPOINT (2-2)

*Hodkinson*  
Based on the practices and styles of Palestrina.

## 319-320. COMPOSITION (2-2)

*Ahrendt*  
Original writing in the smaller forms.

## 367. COUNTERPOINT (2)

*Hall*  
Counterpoint in two, three, or four parts. Study of the invention, imitation and fugue.

## 368. ADVANCED FUGUE (2)

*Hall*  
Based on the eighteenth century style of Bach. Prereq., 318.

## 371-372. COMPOSITION (2-2)

Original writing in the larger forms. Prereq., 320. *Ahrendt*

## 381. RESEARCH IN MUSIC (1 to 4)

Prereq., permission. *Staff*

## 403. SEMINAR IN MUSIC (1)

Reports on research by students or faculty, for discussion. Required of all graduate students enrolled in the School of Music. (Yearly.) Required credit, 2 hrs. Prereq., permission. *Staff*

## 407-408. EVOLUTION OF HARMONIC THEORY (2-2)

A study of the writings of the most important music theorists from the tenth century to the present. Prereq., 314, 316. *Hall*

## 419. MODERN COUNTERPOINT (2)

Based on the techniques of recent and contemporary composers. Prereq., 318. *Hall*

## 425-426. COMPOSITION (2-2)

Extensive writing in the larger vocal and instrumental forms. Prereq., 372. *Ahrendt*

## 427-428. ADVANCED ORCHESTRATION (2-2)

Problems in scoring original works for the modern symphony orchestra. Satisfactory scores are performed by the University Symphony Orchestra. Prereq., 314, 318. *Ahrendt*

## 495. THESIS (As recommended by dept.)

Prereq., permission. *Staff*

## MUSIC EDUCATION

## 376a, b, c. MUSIC WORKSHOP (1 to 4)

Maximum credit in course, 6 hrs. *Staff*

- a. Music Clinic-Workshop (Summer only.)
- b. Opera Workshop
- c. Elementary Music Workshop (Summer only.)

## 470. CONTEMPORARY TRENDS IN MUSIC EDUCATION (2)

Prereq., permission. *Perris, Stephenson*

## 471. PROBLEMS IN THE SUPERVISION OF VOCAL MUSIC (2)

2 lec.; lab. as required. *Perris, Stephenson*

## 472. PROBLEMS IN THE SUPERVISION OF INSTRUMENTAL MUSIC (3)

2 lec.; lab. as required. *Minelli*

## 473. EXPERIMENTAL STUDIES IN MUSIC (3)

Psychological investigations bearing upon musical composition, performance, and appreciation, 2 lec.; 2 lab. Prereq., permission. *Boxberger*

## 495. THESIS (As recommended by dept.)

Prereq., permission. *Staff*

## MUSIC THERAPY

## 374. PSYCHOLOGICAL FOUNDATIONS OF MUSIC (3)

The extent and nature of psychological investigations bearing upon composition, performance, and education in the field of music. Prereq., permission. *Boxberger*

## 377. BACKGROUND OF MUSIC THERAPY (2)

A study of the theoretical and experimental bases for the influence of music on behavior. Prereq., permission. *Boxberger*

## 379. MUSIC THERAPY (2)

A study of the uses of music in therapy. Prereq., 377, permission. *Boxberger*

## 380. CLINICAL EXPERIENCE II (2)

Six months as a full-time music therapy intern in an approved psychiatric hospital, served after completion of the senior year. Prereq., completion of senior year in music therapy. Credit, without grade, upon satisfactory completion. *Boxberger*

## PAINTING

(See Art)

## PHILOSOPHY

*Professors Murphree (chairman), Organ Associate Professors Grean, Nosco, Wieman Assistant Professors Ruchti, Rudolph, Zweig Instructor Rogers*

Only students who have received a 3.0 (B) average in their undergraduate courses in philosophy and a 2.5 average in other undergraduate courses will be admitted as majors in philosophy. The prerequisite for beginning a graduate major is 12 hours, including courses in ethics and logic, and one year in the history of philosophy.

The prerequisite for beginning a graduate minor is six hours in philosophy.

302. AESTHETICS (3)  
*Grean*  
Selected theories of the nature of art and aesthetic experience and the relation of art to other aspects of human culture. (2nd sem.)
304. CONTEMPORARY SOCIAL PHILOSOPHY (2)  
*Murphree*
305. THEORY OF KNOWLEDGE (3)  
*Ruchti*  
A critical examination of various views of what knowledge is and how it is attained.
308. EASTERN PHILOSOPHY (2)  
*Organ*  
Selected philosophers and systems of philosophy of India and China. (2nd sem.)
310. PRAGMATISM (2)  
*Murphree*  
Peirce, James, Dewey. (2nd sem.)
311. METAPHYSICS (2)  
*Wieman*  
Basic assumptions underlying different conceptions of the world with special attention to materialism, formism, idealism, and contextualism. (2nd sem.)
315. PHILOSOPHY OF RELIGION (2)  
*Grean*  
Contemporary thought on the nature of religion, religious symbolism, and the relation of religion and culture. (1st sem.)
317. CONTEMPORARY PHILOSOPHY (2)  
*Zweig*  
Modern positivism and linguistic analysis. (1st sem.)
321. PLATO (2)  
*Wieman*
322. ARISTOTLE (2)  
*Organ*
325. PHILOSOPHY OF CULTURE (3)  
*Rudolph*  
The unity and interrelationship of art, religion, science, and common sense; man as a culture-creating being. (2nd sem.)
331. CONTINENTAL IDEALISM (2)  
*Rogers*  
Kant, Schelling, and Hegel. (1st sem.)
333. EXISTENTIALISM (2)  
*Rudolph*  
The development of existentialism from Kant through Schopenhauer to Camus.
341. LOGICAL THEORY (3)  
*Ruchti*  
Axiomatic formalization of logic, mathematical proof, and topics in metalogic. (2nd sem.)
391. SEMINAR IN PHILOSOPHY (1 to 3)  
*Staff*  
Selected problems. Maximum credit in course, 6 hrs. (1st sem., yearly.)
495. THESIS (As recommended by dept.)  
*Staff*  
Prereq., permission.

## PHOTOGRAPHY

*Assistant Professor Truxell*

*Lecturers Allen, J. Anderson, White*  
(chairman)

To begin a graduate major in photography, a student must present at least 12 hours of undergraduate credit in photography and 6 hours in art, and must submit evidence of photographic ability. To begin a graduate minor in photography, a student must present at least 12 hours of undergraduate credit in photography. At least 48 semester hours are required for the M.F.A. degree.

### 377-378. PORTRAITURE (3-3)

*Truxell*

Traditional and experimental approaches to portraying the human face, the human figure in fashion and the dance, and certain situations dominated by people. Prereq., permission.

### 379-380. COMMERCIAL AND ILLUSTRATIVE PHOTOGRAPHY (3-3)

*White*

Studio and location work in commercial, advertising, industrial, and architectural photography. Introduction to problems of studio operation and free-lance photography. 1 lec., 4 lab. Prereq., permission.

### 381. PROBLEMS IN PHOTOGRAPHY (3)

*Staff*

Individual study and practice in a specialized phase of photography under instructor's supervision. Maximum credit in any one phase or combination of phases, 12 hrs. 6 lab. Prereq., permission.

- Individual selection of approved problems in photographic design, technique, or practice. 6 lab.
- Advanced theory and practice in picture stories and their production. 6 lab.
- Advanced motion picture production. 6 lab.
- Special problems in color photography. 6 lab.

## 391-392. COLOR PHOTOGRAPHY (5-5)

*White*

Theory of color photography, practice with color transparency materials, direct separations, separations from transparencies, masking, and color printing. 1 lec., 8 lab. Prereq., permission.

## 481. RESEARCH IN PHOTOGRAPHY (1 to 4)

*Staff*

Maximum credit in course, 8 hrs. Prereq., 381 and permission.

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## 496. STUDIO THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## PHYSICAL EDUCATION AND INTERCOLLEGIATE ATHLETICS

*Professors Mason (Chairman Graduate Study), Miller, Trepp*

*Associate Professors LaTourrette, Nessley (Associate Director), Rhoads, Rohr (Director), Widdoes*

*Assistant Professors Phillips, Wilkinson  
Lecturer Mattmiller (Director Hudson Health Center)*

A student wishing to begin a graduate major in physical education will be expected to present a minimum of 24 hours of approved work in physical education or equivalent work as approved by the Division of Physical Education and Intercollegiate Athletics. This approved work would approximate the State of Ohio — certifiable minor in Health and Physical Education.

## 304. HISTORY AND PRINCIPLES OF PHYSICAL EDUCATION (3)

*Mason*

Physical Education systems and their influences from the time of the Greeks; principles underlying physical education in the modern program of education. Prereq., Anatomy, Kinesiology, and Physiology.

## 306. ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION (3)

*Mason, Miller*

Methods of organizing and administering health and physical education, recreation, and athletics in schools and colleges.

## 309. TESTS AND MEASUREMENTS (3)

*Mason*

Methods of evaluation in health education, physical education, and athletics; practice in handling testing data by elementary statistical methods.

## 349. COMMUNITY RECREATION (3)

*Nessley*

History of the play movement, programs and program building, administration of playgrounds, community centers, and recreational activities.

## 353. CLINICAL OBSERVATION AND PRACTICE IN PHYSICAL MEDICINE AND REHABILITATION (4)

*V.A. Hospital Staff*

A concentrated summer school field course at Veterans Administration Hospital, Chillicothe, Ohio. Instruction by hospital corrective therapy staff. Prereq., Anatomy, Kinesiology, and Physiology.

## 395. SCHOOL HEALTH PROBLEMS (3)

*Trepp*

Principles, problems, organization, and administration of school health programs including school and community relationships.

## 400. GUIDED INDEPENDENT STUDY (1)

*Mason, Miller*

Guided independent study of a selected problem with a written report based on the research. Maximum credit in course, 2 hrs.

## 401. PROBLEMS IN HEALTH AND PHYSICAL EDUCATION (3)

*Mason*

An investigation of selected problems in health education and physical education; research reading, discussion, analysis, written reports, examinations.

## 406. PROBLEMS OF INTERSCHOOL ATHLETICS (3)

*Rhoads, Widdoes*

Problems pertaining to interschool athletic competition at all age levels.

## 410. THE CURRICULUM IN PHYSICAL EDUCATION (3)

*Mason*

An analysis of the criteria and procedures for curriculum construction in physical education; a critical evaluation of courses of study; the development of written guides for programs in elementary and secondary schools, colleges, and universities.

## 452. PHYSICAL DIAGNOSIS (3)

*Mattmiller*

Deficiencies and defects characteristic of children that handicap normal physical, mental, and social development, and the techniques in conducting health examinations and clinical service.

## 491. SEMINAR IN PHYSICAL EDUCATION AND ATHLETICS (3)

*Mason, Miller, Nessley*

Research and investigation in health education, physical education, recreation, or athletics.

Topics and problems suitable for thesis writing, methods of research, writing practice, and critical analysis of outlines for research study. Required of all master's degree candidates.

492. FOUNDATIONS OF HEALTH EDUCATION AND PHYSICAL EDUCATION (3)

*Miller, staff*

A summation of the scientific principles from biology, psychology, and sociology underlying the programming, instruction, and administration of health education and physical education.

495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

Any of the following courses may be elected in meeting the requirements for the graduate major in physical education.

Zool. 305, PRINCIPLES OF PHYSIOLOGY

Psych. 336, SOCIAL

Psych. 437, 438, BEHAVIOR DISORDERS

Ed. 381, EDUCATIONAL STATISTICS

ED. 382, ADVANCED EDUCATIONAL STATISTICS

Ed. 385, EDUCATIONAL MEASUREMENTS

## PHYSICS

*Professors Breitenberger, Edwards, Randall (chairman)*

*Associate Professors Finlay, Munir, Onley, Pierce, Sanford, Stumpf*

*Assistant Professors Barry, Brient, C. C. Chen, Dilley, Koshel, Shipman, Unruh, Vittitoe*

Graduate study leading to both the master's degree and the doctorate is offered in physics. Prospective students for these degree programs should have completed the requirements for a baccalaureate degree with a major in physics, including a working knowledge of mathematics through integral calculus and the elements of partial differential equations, Fourier series and vector analysis. Students who lack such preparation are expected to make up deficiencies in addition to their normal program of graduate study. The minimum undergraduate preparation for a graduate minor is eight hours of physics.

The graduate program in physics is individually planned for each student after a careful perusal of his background and experience. Courses in related fields such as chemistry, engineering and mathematics may be included in the program. The following courses are recommended to all students in the first two years of graduate study: 404, 405-406, 407-408, 419-420, four hours of advanced laboratory, one hour of 413, 414, and the courses given in the Mathematics Department on advanced calculus, modern algebra and special

functions. All graduate students in residence are required to attend the weekly colloquium.

305. OPTICS (3)

Physical nature of light, geometrical and physical optics. Lasers and modern applications. (2nd sem., 1966-67.)

308. X-RAYS AND CRYSTAL PHYSICS (2)

*Edwards*

Production of x-rays and their interactions with matter. Fundamentals of crystal structure analysis. (1st sem., 1967-68.)

310. THERMODYNAMICS (3)

*Stumpf*

Fundamentals of heat, thermodynamics, kinetic theory and statistical mechanics. (1st sem., yearly.)

314. SPECTROSCOPY (3)

*Edwards*

Theory of atomic and molecular spectra produced by optical and magnetic resonance methods. (1st sem., 1966-67.)

326. ACOUSTICS (2)

*Stumpf*

Fundamentals of vibrations and wave propagation. Prereq., Math. 314. (2nd sem., 1966-67.)

327 through 332. ADVANCED PHYSICS LABORATORIES (2 each)

*Staff*

Fundamental physical principles and interpretation of data are emphasized through the application of advanced techniques and modern instrumentation in six fields of physics for the chemist, engineer, and physicist.

327. OPTICS  
(1st sem. 1967-68.)

328. SPECTROSCOPY  
(2nd sem., yearly.)

329. ELECTRICAL MEASUREMENTS  
(1st sem., yearly.)

330. ELECTRONIC CIRCUITS  
(2nd sem., yearly.)

331. X-RAYS  
(1st sem., yearly.)

332. NUCLEAR PHYSICS  
(2nd sem., yearly.)

342. NEUTRON PHYSICS LABORATORY (3)

*Sanford*

Properties of the neutron and studies of the uranium reactor. (1st sem., yearly.)

349-350. ATOMIC AND NUCLEAR PHYSICS  
(3-3)

*Finlay*  
Fundamental physical laws of atomic and nuclear structure. (Yearly.)

352. INTRODUCTION TO QUANTUM MECHANICS  
(3)

*Chen*  
Introduction to basic physical laws in which energy and momentum are quantized. (2nd sem., yearly.)

## 360. SOLID STATE PHYSICS (3)

*Sanford*  
Fundamental physical properties of the solid state of matter. Prereq., 314 or 349. (2nd sem., yearly.)

## 361. SPECIAL PROBLEMS (1 to 3)

*Staff*  
Supervised research problems of limited scope in experimental and theoretical physics. Maximum credit in course, 8 hours. Prereq., 15 hours. (Each sem.)

## 365. NUCLEAR REACTOR THEORY (3)

*Sanford*  
Nuclear physics and neutron theory with applications to reactor design and operation. (1st sem., yearly.)

## 404. THERMOPHYSICS (3)

*Barry*  
Formal principles and basic methods in thermodynamics and quantum statistical mechanics. Prereq., 352 (or equivalent). (2nd sem., yearly.)

## 405-406. MECHANICS (3-3)

*Breitenberger*  
Basic analytical techniques in traditional and contemporary perspective, with mathematical complements. (Yearly.)

## 407-408. ELECTRODYNAMICS (3-3)

*Vittitoe*  
Maxwell's theory and special relativity, with mathematical complements. (Yearly.)

## 409. HIGH ENERGY PARTICLES (3)

*Munir*  
Experimental results and current questions concerning particles from cosmic rays and accelerators. Prereq., 352 (or equivalent).

## 410. ELEMENTARY PARTICLE THEORY (3)

*Munir*  
Basic theoretical ideas on particle interactions. Prereq., 409, 420.

413, 414. MATHEMATICAL PHYSICS PRACTICUM  
(1, 1)

*Breitenberger*  
Thorough exercises in selected mathematical techniques important to the physicist. Prereq., Math. 313, 314 (or equivalent). (Yearly.)

415, 416. METHODS OF THEORETICAL PHYSICS-  
(3, 3)

*Onley*  
Selected, advanced mathematical methods employed in theoretical physics. Prereq., 12 hours. (1st sem., yearly.)

## 419-420. QUANTUM MECHANICS (3-3)

*Koshel*  
Non-relativistic wave and matrix mechanics, with mathematical complements. Prereq., 352 (or equivalent). (Yearly.)

425, 426. ADVANCED THEORETICAL PHYSICS  
(3, 3)

*Staff*  
Selected, advanced subjects requiring classical methods. Prereq., 406, 408.

## 449-450. NUCLEAR THEORY (3-3)

*Brient, Finlay*  
Fundamental facts about nuclei and their theoretical interpretation. Prereq., 419.

## 460. THEORY OF THE SOLID STATE (3)

*Chen*  
Basic applications of quantum mechanics to crystalline solids. Prereq., 360 (or equivalent), 404 (or with 404), 419.

*Unruh*

461. STATISTICAL MECHANICS AND  
THERMODYNAMICS (3)

*Barry*  
Selected topics. Prereq., 404, 420.

## 480. SPECIAL STUDY (1 to 3, 1 to 3)

*Staff*  
Supervised individual study in preparation for research. Prereq., permission. (Each sem.)

## 481. RESEARCH (As recommended by dept.)

*Staff*  
Prereq., 15 hours and permission. (Each sem.)

## 489, 490. COLLOQUIUM (1, 1)

*Breitenberger*  
Selected topics of current interest. (Yearly.)

491, 492. SEMINAR (Acoustics, High Energy,  
Solid State, Nuclear, Theoretical, Special  
Topics) (1 to 3, 1 to 3)

*Staff*  
Intensive study of selected subjects by special groups. Prereq., 15 hours and permission. (Several seminars may be held concurrently each semester.)

## 495. THESIS (As recommended by dept.)

*Staff*  
Prereq., permission.

## 519, 520. ADVANCED QUANTUM THEORY (3)

*Dilley*  
Selected topics in relativistic and field theory. Prereq., 420.



549. ADVANCED NUCLEAR THEORY (3) *Koshel*  
Selected topics. Prereq., 420, 450.

560. ADVANCED SOLID STATE THEORY (3) *Chen*  
Selected topics. Prereq., 420, 460.

581. DOCTORAL RESEARCH (As recommended by dept.) *Staff*  
Prereq., 15 hours and permission. (Each sem.)

595. DISSERTATION (As recommended by dept.) *Staff*  
Prereq., permission.

## PSYCHOLOGY

*Professors A. Anderson, Games, Kahn, Kimmel, Klare, Paulsen, Snyder (chairman)*  
*Associate Professors Bradshaw, Bruning, Corwin, Pullen, Russell, Thompson, L. Waters, Whalen*  
*Assistant Professors Caracena, Comer, Koons, Leckert, J. Russell, C. Waters, Worden*  
*Instructors Crawford, Semans*

To begin a graduate major in psychology the student must present an undergraduate scholastic average of 3.3 (B+) in the major field, with a minimum of 18 hours of psychology or equivalent work, as approved by the department. Included in undergraduate preparation should be courses in statistics and in experimental psychology. Graduate Record Examination scores (Aptitude and Advanced tests) and an undergraduate grade point average of 3.0 are required.

To begin a graduate minor in psychology, a minimum of eight hours in psychology is required.

Although the emphasis in the master's degree program is directed toward preparation for further study, specialization is offered in the areas of clinical, counseling, general-experimental, industrial, and school psychology. Internship arrangements for school psychology majors may be made through Psychology 478.

Doctoral degrees are offered in general-experimental or clinical-counseling psychology. A master's degree in psychology is a prerequisite to this program, with a graduate grade point average of 3.5. In clinical or counseling psychology a year of predoctoral internship in an approved agency is required. MAT and GRE scores, and recommendations are necessary before admission to the doctoral program.

The facilities of the Center for Psychological Services and the Athens State Hospital provide opportunities for the training of graduate students in psychology, as well as services to University students, staff, and faculty.

301. EXPERIMENTAL SENSORY PSYCHOLOGY (3) *Staff*

A systematic study of sensory processes, including vision, audition, gustation, olfaction, and somesthesia. 2 lec., 3 lab. (1st sem., yearly.)

303. LEARNING (3) *Staff*  
A study of methods and basic data in the areas of conditioning, discrimination learning, problem solving, habit formation, and retention. 2 lec., 3 lab. (1st sem., yearly.)

308. PSYCHOLOGY OF SPEECH (3) *Brandes*  
(See Speech.)

310. MOTIVATION AND EMOTIONS (3) *Staff*  
The dynamics of animal and human behavior; a study of drives, desires, incentives; a study of emotion in relation to motives. (2nd sem., yearly.)

312. PHYSIOLOGICAL PSYCHOLOGY (3) *Thompson*  
A study of the relationship between behavior and the bodily processes in the intact organism. (1st sem., yearly.)

314. COMPARATIVE PSYCHOLOGY (3) *Thompson*  
Behavior of lower and higher organisms leading up to man. 2 lec., 3 lab. (1st sem., yearly.)

332. ABNORMAL PSYCHOLOGY (3) *Koons, staff*  
Man's mental deviations from the normal; theory, application, and limitations of psychoanalysis; methods of studying abnormal mental processes, especially psychosis. Clinics at hospitals. 2 lec., 1 lab. Prereq., 9 hrs., or 6 hrs. and 6 hrs. zoology. (2nd sem., yearly.)

333. PSYCHOLOGY OF PERSONALITY (3) *Russell*  
The origins, development, and organization of personality. (1st sem., yearly.)

336. SOCIAL PSYCHOLOGY (3) *Bruning, staff*  
The behavior of man as influenced by group membership, with emphasis on the individual's interaction as a basis of change of motives, attitudes, and personality. (Each sem.)

351. INTRODUCTION TO CLINICAL AND COUNSELING PSYCHOLOGY (3) *Kahn*  
Diagnostic and remedial procedures and resources; professional problems, duties, and skills, and interprofessional relationships. Prereq., 332 or 333 or 336.

361. SEMINAR IN PSYCHOLOGICAL PROBLEMS  
IN INDUSTRY (3)

*Crawford, L. Waters*  
Problems of selection, placement, motivation, development, and evaluation of employees, with emphasis on job analysis, interviewing, testing, rating and attitude evaluation as related to worker satisfaction, fatigue, and productivity. (1st sem., yearly.)

362. HUMAN FACTORS IN INDUSTRY (3)

*L. Waters, Crawford*  
Introduction to psychological factors in man-machine systems. (2nd sem., yearly.)

363. ADVANCED INDUSTRIAL PSYCHOLOGY (3)

*L. Waters, Crawford*  
Consideration of the general area of industrial psychology at a senior and graduate level.

373. DEVELOPMENTAL PSYCHOLOGY (3)

*Bradshaw*  
An advanced review of fundamental principles and research covering the development of human behavior. (1st sem., yearly.)

375. PSYCHOLOGY OF EXCEPTIONAL CHILDREN  
(3)

*Worden*  
The growth and development of nontypical children. (Each sem.)

376. PROGRAMMED LEARNING AND TEACHING  
MACHINES (3)

*Klare, staff*  
Use of programs and machines; principles and procedures in preparing programs; writing of objectives and frames for a trial program. Prereq., a course in learning. (1st sem., yearly.)

390. MINOR PROBLEMS IN PSYCHOLOGY (1 to  
3)

*Staff*  
Training in the scientific study of some problem of special interest to the student. Independent work emphasized. Maximum credit in course. 6 hrs. (Each sem.)

403. LEARNING THEORIES (3)

*Bruning*  
Lectures and readings covering theoretical works in the field of learning. (1st sem., yearly.)

406. PSYCHOLOGY OF LEARNING (3)

*Klare*  
A psychological approach to the process of communication, with applications to problems in the social sciences. (2nd sem., yearly.)

411. PERCEPTION (3)

*Staff*  
The psychological principles of perception involving the study of impersonal (time, space, motion) and personal (social) phenomena. Prereq., 15 hrs. (2nd sem., alternate years.)

417. HISTORY OF PSYCHOLOGY (3)

*Staff*  
Prereq., 9 hrs. (2nd sem., yearly.)

418. SYSTEMS OF PSYCHOLOGY (3)

*Staff*  
A critical analysis and comparison of modern and contemporary psychological theory. Prereq., 15 hrs. (2nd sem., yearly.)

421. INTERMEDIATE STATISTICS FOR THE  
BEHAVIORAL SCIENCES (3)

*Games, Waters*  
The process of statistical inference, and the most commonly used tests of hypotheses involving the normal curve and the *t*, chi-square, and *F* distributions. Correlation and linear regression. 4 lec., 1 lab. (1st sem., yearly.)

422. INTERMEDIATE CORRELATION AND  
ANALYSIS OF VARIANCE (3)

*Games, L. Waters*  
Product moment correlation coefficients, Chi Square tests, analysis of variance of independent measures, and repeated measures through the two dimensional usages. Computational procedures for three dimensional and higher designs. 3 lec., 1 lab. Prereq., 421; or Ed. 381 and permission. (2nd sem., yearly.)

423. DESIGN AND ANALYSIS OF EXPERIMENTS  
(3)

*Games, Waters*  
Analysis of variance techniques and considerations in the design and analysis of experiments; trend analysis; covariance; multiple comparisons. 3 lec., 1 lab. Prereq., 421. (2nd sem., alternate years.)

424. ADVANCED PRINCIPLES OF TESTS AND  
MEASUREMENTS (3)

*Games, Waters*  
Test theory, item analysis, reliability analysis, cross validation, and an introduction to factor analysis. Statistical considerations of constructing, using, and interpreting tests. Prereq., Psych. 421, Ed. 382. (2nd sem., alternate years.)

426. ADVANCED EXPERIMENTAL PSYCHOLOGY  
(4)

*Kimmel, staff*  
Study of experimental design and techniques. Students will carry out individual experiments. Prereq., 421. (2nd sem., yearly.)

433. THEORIES OF PERSONALITY (3)

*Staff*  
Prereq., 333, 336. (2nd sem., yearly.)

436. ADVANCED SOCIAL PSYCHOLOGY (3)

*Bruning, staff*  
A summary of the main theoretical and substantive trends in contemporary social psychology, with emphasis upon the role of small group theory and research. Prereq., 336. (2nd sem., yearly.)

## 437. BEHAVIOR DISORDERS I (3)

*Koons, staff*

An empirical approach to the dynamics of behavior disorders. The integration and application of motivational, emotional, perceptual and learning principles to maladjustments, including psychoneurosis. Prereq., 332 or equivalent. (1st sem., yearly.)

## 438. BEHAVIOR DISORDERS II (3)

*Staff*

An intensive approach, stressing current literature, to the problems of psychopathology, including organic, psychotic, psychoneurotic, and personality disorders and mental deficiency. Prereq., 437. (2nd sem., yearly.)

## 441. BEHAVIORAL MEASUREMENT (2)

*Games, Waters*

Theory of testing and measurement; basic criteria including objectivity, reliability, validity. Methods of test construction and validation, including questionnaire construction. An introduction to factor analysis. Prereq., 421 or Educ. 381 or equiv.; required of graduates who have not had 142. (2nd sem., yearly.)

## 442. INDIVIDUAL INTELLIGENCE TESTING (3)

*Semans, staff*

The theory, methods, practice, and results of intelligence tests. 2 lec. 1 lab. Prereq., 441. (Each sem. and summer.)

## 443. ASSESSMENT I — INTRODUCTION (3)

*Kahn, Koons*

An intensive survey of clinical methods: interviewing, report writing, inter-professional relationships, interpretation of commonly used individual and group assessment methods, and a general introduction to the theory of projective testing. Prereq., 442. (2nd sem., yearly.)

## 444. ASSESSMENT II — ADVANCED INDIVIDUAL TESTING (3)

*Kahn, Koons*

The theory, methods, and introduction to the interpretation of projective testing. Prereq., 443 and 451 or 437. (1st sem., yearly.)

## 445. ASSESSMENT III — INTEGRATION (3)

*Kahn, Koons*

Advanced interpretation of projective and other diagnostic tests and the integration of test findings into a dynamic conceptualization of the individual. Prereq., 444. (2nd sem., yearly.)

## 446. PRACTICUM IN PSYCHOLOGICAL ASSESSMENT (3 to 6)

*Staff*

Experience with psychological measuring devices, especially projective techniques. Prereq., 443 (or concurrently). (Each sem.)

## 447. INDIVIDUAL TESTS: EXCEPTIONAL CHILDREN (3)

*Corwin, Semans*

Introduction to special instruments and techniques for testing the intelligence of exceptional children; supervised experience. 2 lec., 5 lab. Prereq., 442. (2nd sem., yearly.)

## 451. PERSONNEL AND VOCATIONAL COUNSELING I (3)

*Russell*

Techniques useful in considering personnel and vocational problems in industrial, commercial and school work. Prereq., 9 hrs., including 441. (1st sem., yearly.)

## 452. PERSONNEL AND VOCATIONAL COUNSELING II (3)

*Russell*

Consideration of the dynamics of vocational choice and adjustment, theory of interests, occupational information, job classification, uses of community resources, etc., as applied to counseling and personnel work. Prereq., 451 and 332 or 437. (2nd sem., yearly.)

## 453. COUNSELING AND PSYCHOTHERAPY I (3)

*Kahn, Pullen, staff*

Analysis of theory and practice in counseling and psychotherapy. Prereq., 437. (1st sem., yearly.)

## 454. COUNSELING AND PSYCHOTHERAPY II (3)

*Snyder, staff*

Theory and practice in counseling and psychotherapy with personal adjustment cases. Prereq., 443, 453. (2nd sem., yearly.)

## 455. PRACTICUM IN COUNSELING AND PSYCHOTHERAPY (3)

*Kahn, Pullen, Snyder*

Supervised experience in counseling, and psychotherapy. A pre- or co-requisite to the clinical internship; may be repeated for maximum credit of 6 hrs. Prereq., 454 or concurrently. (Each sem.)

## 456. PRACTICUM IN PERSONNEL AND VOCATIONAL COUNSELING (3)

*Russell*

Experience in personnel and vocational counseling. The work will include the handling of counseling cases. Prereq., 451 and 332 or 437. Ed. 362 recommended. (2nd sem., yearly.)

## 457. PRACTICUM IN GROUP PSYCHOTHERAPY (3)

*Pullen*

One lec., 3 lab. Prereq., 454 or equiv., permission. (2nd sem., yearly.)

## 477. PRACTICE OF SCHOOL PSYCHOLOGY (2)

*Corwin, Bradshaw*

Survey of the responsibilities, activities, and problems of the school psychologist; required of students completing the sequence for school psychology credential. Prereq.; 12 hrs. of school psychology sequence. (1st sem., yearly.)

478. INTERNSHIP IN SCHOOL PSYCHOLOGY (15)  
*Corwin, Bradshaw*

Supervised experience in school psychology activities in a public school system; open only to students who have completed the rest of the school psychology curriculum. Full time work for two semesters.

491. RESEARCH IN PSYCHOLOGY (1 to 6)  
*Staff*  
Prereq., permission.

494. ADVANCED SEMINAR IN PSYCHOLOGY  
(1 to 2)  
*Staff*  
Maximum credit in course, 4 hrs. Prereq., permission. (Each sem.)

495. THESIS (As recommended by dept.)  
*Staff*  
Prereq., permission.

595. DISSERTATION (As recommended by dept.)  
*Staff*  
Prereq., permission.

**PUBLIC ADDRESS**  
(See Speech)

**RADIO-TELEVISION**  
(See Speech)

**RUSSIAN**  
(See Modern Languages)

**SOCIOLOGY AND ANTHROPOLOGY**

*Professor Harlan (chairman)*  
*Associate Professors Schafer, Worstell*  
*Assistant Professors Dennis, Horning, Webb*  
*Instructors Draper, Kuhre*

A graduate major in sociology offers preparation for teaching, research, and advanced graduate training. Undergraduate preparation should include 10 semester hours in sociology, at least 12 hours in other behavioral sciences, and a course in statistics. Graduate requirements are: 24 to 26 semester hours in sociology, including 4 hours devoted to the preparation of a thesis, and a minor of 6 to 8 hours in a related field. All graduate majors must register for 301 or 381 and 303 or 491 for a minimum of 4 credit hours. The prerequisite for beginning a graduate minor is 6 undergraduate credits in sociology.

301. SOCIAL RESEARCH METHODS (2)  
*Staff*  
Analysis of the research process in terms of problem definition, experimental design, field techniques, and methods of data analysis. (1st sem.)

303. SOCIOLOGICAL THEORY (2)  
*Staff*  
Historical development of sociology; major European and American contributors; recent trends and the status of specialized fields of interest. (2nd sem.)

311. CRIMINOLOGY AND PENOLOGY (3)  
*Schafer*  
Causal factors in criminal behavior; typology of offenders; crime statistics; criminal codes, formal and informal prison social systems; treatment techniques and facilities. Field trips. (1st sem., yearly.)

315. FOLK COMMUNITIES (3)  
*Dennis*  
Comparative study of primary village communities; peasantry as a historical phenomenon; the folk community as an embodiment of civilization in Europe, India, and the Far East. (1st sem.)

316. CULTURE AND CIVILIZATION (3)  
*Dennis*  
Analysis of the concept "civilization" and of the transformation of social life which it represents. Social institutions and change in selected civilizations outside the main course of Western history. (2nd sem., yearly.)

318. WORLD POPULATION TRENDS (3)  
*Staff*  
Differential rates of growth in various countries; technological, health, economic, and political problems; current national and international policies and programs. (2nd sem., yearly.)

320. SOCIOLOGY OF ORGANIZATION (3)  
*Horning*  
Study of the work plant as a social system, with emphasis upon work-group relationships and behavior; the meaning and organization of work, managerial functions, and the structure of trade unions. (1st sem., yearly.)

321. CONTEMPORARY SOCIAL MOVEMENTS (3)  
*Harlan*  
Organized movements resulting in major social changes; revolutionary, nationalistic, reform, religious, and fashion movements; leaders, ideologies, tactics; case studies of typical movements. (2nd sem., yearly.)

322. JUVENILE DELINQUENCY (3)  
*Schafer*  
Factors associated with delinquency; characteristics of delinquents; juvenile courts and clinics; probation, correctional training; delinquency prevention. Field trips. (2nd sem., yearly.)

## 325. PERSONALITY AND SOCIETY (3)

*Harlan*

Analysis of personality development in relation to cultural differences and social class position; human nature, feeling, motivation, social perception; problem-solving and reference-group behavior in successive life-stages. (2nd sem., yearly.)

## 334. SOCIAL STRATIFICATION (3)

*Webb*

Caste, estate, and class systems, and their relation to occupation, life-expectancy, health, mental disorder, education, political interests, etc.; factors in social mobility. (2nd sem., yearly.)

## 335. PUBLIC OPINION PROCESSES (3)

*Harlan*

Attitude and opinion formation relating to public issues and decisions; personality, reference groups, and social status as factors in political socialization and participation; the role of mass media and organizations in opinion formation. (1st sem., yearly.)

## 336. MASS COMMUNICATIONS (3)

*Harlan*

Personal and social functions of mass media content. Types of content and audiences; normative and acculturative effects. Group consensus and conflict. Organizational characteristics of mass communications systems. Prereq., 335. (2nd sem., yearly.)

## 339. INTRODUCTION TO THE PROFESSION OF SOCIAL WORK (3)

*Worstell*

An analysis of the attributes and characteristics of social work as a profession, and a descriptive study of the methods of social work and the settings in which they are practiced. Prereq., permission.

## 341, 342. FIELD AND AGENCY EXPERIENCE (2, 2)

*Schafer, Worstell*

Assignment to a welfare or correctional agency for observation and limited work experience. Agency supervision, regular conferences with instructor. Two afternoons each week. Maximum credit in course, 4 hrs. (Each sem.)

## 345. SMALL GROUP ANALYSIS (2)

*Harlan*

Theory of small group interaction, communication, role definition, and leadership; group structure and function in various organizational contexts; emphasis upon current research. (1st sem.)

## 350. TOPICAL SEMINARS (2)

*Staff*

Selected topics in following areas (given in sequence in a two-year cycle): (a) Deviant Behavior—*Schafer*; (b) Community and School—*Webb*; (c) Occupations and Professions—*Horning*; (d) Cultural Change—*Dennis*. Maximum credit in course, 4 hrs.

## 381. RESEARCH PROBLEMS IN SOCIOLOGY (1 to 3)

*Staff*

Individual research coordinated with other student or faculty projects. Maximum credit in course, 6 hrs. (Each sem.)

## 404. MEASUREMENT OF EFFECT IN MASS COMMUNICATIONS (3)

*Harlan*

Intensive analysis of the problems and methods of research designed to measure the extent of attitude, opinion, and behavioral change related to various types of mass media content, with critiques of major studies; planning of a study of interest to the student. Prereq., 335, 336 or equivalent, and a course in research methods. (1st sem., yearly.)

## 410. PROPAGANDA TECHNIQUES AND OBJECTIVES (3)

*Harlan*

The use of mass communications as instruments for directed behavioral change; psychological warfare, international political propaganda, coercive persuasion; individual and group susceptibility; methods of propaganda analysis. Prereq., 335 or 336, 404, or equivalent courses in related areas. (2nd sem., yearly.)

## 491. GRADUATE SEMINARS (2)

*Staff*

Offered in sequence in a two-year cycle in the following areas: (a) Social Organization, (b) Social Psychology, (c) Collective Behavior, (d) Population and Community Structure. Maximum credit in course, 6 hrs.

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., 301, 381, or equivalents, and permission.

## SPANISH

(See Modern Languages)

## SPEECH

## Introduction to Graduate Study and Speech Education

## Public Address

## Radio and Television

## Speech, Pathology, Audiology, and Speech Science

## Theatre and Interpretation

*Professors Kantner (director), Andersch,  
Boase, Brandes, LaFollette, Staats,  
Summers, Walker*

*Associate Professors Ham, Holmes, Lane,  
Wiseman*

*Assistant Professors Barnett, Conover,  
Faules, Hahne, McGraw, Richards, Spalding,  
Shallop, Williams, Winters*

*Instructors Abbott, Buglio, Marshall,  
Saunders*

*Visiting Artist Coggin*

### THE MASTER'S DEGREE

Prospective graduate students in dramatic art and speech should present a minimum of 24 hours of undergraduate work, including basic speech courses in any or all of the following: public address, speech and hearing therapy, audiology, speech science and phonetics, theatre, oral interpretation, radio-television, and speech education. The total program, undergraduate and graduate, must include at least three semester hours in three of the following four areas: (1) Public Address, (2) Radio and Television, (3) Speech Pathology, Audiology, and Speech Science and (4) Theatre and Interpretation. Academic ability, experience records, and personal recommendations are also considered in the selection of the students to be admitted for graduate study.

Those accepted with less than the minimum course requirements will be expected to make up the deficiency through further work at the undergraduate level or additional graduate courses according to the needs of the individual student.

Speech 401, Introduction to Graduate Study, is a general requirement and Speech 462, Speech and Higher Education, is strongly recommended for teaching assistants and those planning to teach in college.

The minimum requirements for the degree are 30 graduate credits plus thesis. These requirements include a major of not less than 16 hours and a minor of not less than 8 hours. The major may be in general speech or in any one of the specialized areas named above. The minor may be in another area within the broad field of speech, or in a related discipline, or it may be divided between two disciplines with no less than 6 hours in each.

### THE DOCTORAL PROGRAM

Applications for admission to graduate study at the doctoral level will be considered individually by the staff members in the major area. To be eligible for admission without conditions, an applicant must have completed the master's degree in the field of speech, or the substantial equivalent of the course requirements for this degree, and show evidences of superior scholarship, a genuine interest in research, good character, and other personal

attributes appropriate to a potential member of a learned profession.

The doctoral program provides for the acquisition of a relatively broad background in the general field of speech or for concentrated study in one or more areas of special interest. Major areas of study are: (1) public address, including history of public address, rhetorical theory and criticism, discussion and debate, persuasion, psychology of speech, and communication in organizations, (2) speech pathology and correction, audiology, speech science and phonetics and (3) radio and television.

The general course requirements for the degree are: (1) a total of 100 semester hours of graduate credit, (2) a major of not less than 36 hours, (3) a minor outside the field of speech of not less than 12 hours, (4) a minor within the field of speech of not less than 9 hours or a second outside minor of not less than 12 hours, (5) at least 16 hours of dissertation credit and (6) the remaining 24 or 27 hours to be distributed among any of the categories above or in any appropriate elective courses.

The minor in speech may be taken in any of the major areas named above or in theatre and interpretation. The outside minor may, with the approval of the advisor and the Guidance committee, be in any discipline that is related to the area of specialization or serves to provide a broad scholarly background for the student. There are no general departmental requirements; however, each area may set up such requirements for its own majors as are deemed appropriate. The total program is planned by the student working with his advisor subject to the approval of the guidance committee.

### INTRODUCTION TO GRADUATE STUDY AND SPEECH EDUCATION

#### 401. INTRODUCTION TO GRADUATE WORK (3)

*Kantner*

Men, movements, and professional literature in the field of speech. Conduct of research and selection of a thesis problem.

#### 462. SPEECH AND HIGHER EDUCATION (3)

*Andersch*

Current problems and challenges facing higher education and their effect on the speech discipline; evolution of curricula in speech, theatre, radio-television, and speech and hearing therapy; analysis of basic speech courses.

#### 491. SEMINAR IN SPEECH EDUCATION (3)

*Andersch*

Problems and research relating to the teaching of basic speech courses at the college level. Individual projects.

## PUBLIC ADDRESS

## 305. GROUP DISCUSSION AND CONFERENCE LEADERSHIP (3)

*Wiseman*

Types of group discussion, conference leadership and principles of general semantics; social responsibility, ethical problems and standards; frequent practice in discussion.

## 308. PSYCHOLOGY OF SPEECH (3)

*Brandes*

Psychological principles active in communication, such as laughter, lying, speech snobbery, stage fright and the relationship between personality and speech.

## 309. CLASSICAL RHETORICAL THEORY (3)

*Boase, Staats*

The principles of rhetoric based upon the theories of Aristotle, Cicero, Plato, Adams and Quintilian. Speeches of eminent orators are analyzed.

## 316. COMMUNICATION AND THE CAMPAIGN (3)

*Faules*

Analysis of the process of communication as it occurs in the campaign situation, Prereq., permission.

## 325. DIRECTION OF FORENSIC PROGRAMS (3)

*Brandes, Faules*

Organization of forensic programs, management of inter-school contests and tournaments, principles of coaching and judging. Practical application in the University forensic program.

## 340. APPLICATIONS OF GENERAL SEMANTICS TO SPEECH (3)

*Wiseman*

The chief formulations from general semantics with special emphasis on their application to the field of speech.

## 342. PERSUASION AND PROPAGANDA (3)

*Brandes*

Study of the ways in which attitudes are changed by communication with emphasis on the experimental approach. Units on communicator credibility, emotion, reasoning, evidence, arrangement and criterion measures.

## 344. APPROACHES TO THE STUDY OF COMMUNICATION (3)

*Wiseman*

Comparison and integration of various approaches to the study of communication and behavior in individuals and groups. Communication theory is integrated with social, linguistic, psychiatric, and learning theories.

## 349. RHETORICAL CRITICISM (3)

*Boase*

Theories and critical methods of Plutarch, Cicero, Goodrich, Brougham, and selected modern writers. Prereq., 12 hrs., including 309, or equivalent.

## 355. CREATIVE PROBLEM SOLVING (3)

*Wiseman*

A study of creativity, problem solving techniques and their relationship to communication.

## 366. COMMUNICATION IN ORGANIZATIONS (3)

*Faules*

Traditional and modern communications channels in organizations; communication models and networks; communication principles applied to message designs, feed-back systems, interviewing and decision-making. Management 211 is recommended as preparation. Prereq., 344.

## 370. AMERICAN PUBLIC ADDRESS TO 1865 (3)

*Boase*

The history of public address in America from colonial times through the Civil War.

## 371. AMERICAN PUBLIC ADDRESS, 1865 TO PRESENT (3)

*Boase*

The history of public address in America from 1865 to the present.

## 373. FRENCH PUBLIC ADDRESS (3)

*Brandes*

A study of the pulpit orators of the 17th century and the political orators of the French Revolution and the Second and Third Republics.

## 385. CONTEMPORARY PUBLIC ADDRESS (3)

*Brandes*

Analysis of the impact of contemporary speakers, such as Gandhi, Kennedy, Martin Luther King and others. Emphasis on style.

## 395. ADVANCED ARGUMENTATION AND DEBATE (3)

*Brandes*

Study of formal rhetorical logic. Emphasis on the syllogism and the fallacy in political debates, such as the Lincoln-Douglas debates of 1858.

## 412. ADVANCED SPEECH COMPOSITION AND DELIVERY (3)

*Staats*

Advanced study of content, organization, composition, and delivery of lecture-length speeches. Prereq., 309, or equivalent.

## 472. BRITISH PUBLIC ADDRESS (3)

*Staff*

A study of British parliamentary orators of the 18th and 19th centuries. Prereq., 309 or equivalent.

## 473. RENAISSANCE RHETORICAL THEORY (3)

*Boase*

The major rhetorical theories from Cox in 1530 to Whately in 1828 are covered with emphasis on the Renaissance linking of ancient to modern rhetoric.

## 475. GREEK, ROMAN, AND PATRISTIC PUBLIC ADDRESS (3)

*Staats*

Historical and cultural aspects of public address in the Greek, Roman and Patristic periods. Outstanding speakers and speeches of each period analyzed in terms of the issues of the time. Prereq., 309.

## 490. SEMINAR IN PUBLIC ADDRESS (3)

*Boase, Brandes, Staats*

Advanced study in the history of public address, or rhetorical theory, or rhetorical criticism and speech analysis. Prereq., 309 or 471, or equivalent.

## 494. RESEARCH (1-12)

*Staff*

Individual, guided research on special problems. Projects must be approved prior to registration. Prereq., permission.

## 495. THESIS (As recommended by dept.)

*Staff*

## 595. DISSERTATION (As recommended by dept.)

*Staff*

## RADIO AND TELEVISION

## 302. PRINCIPLES OF TELEVISION PRODUCTION (3)

*Marshall*

Production aspects of television and general principles of equipment operation and crew responsibilities. Laboratory experience. Two lec., two lab.

## 317. DRAMATIC AND DOCUMENTARY WRITING (3)

*Spalding*

Writing and critique of the form, structure, and presentation of both dramatic and non-dramatic programs and series.

## 332. PRO-SEMINAR IN TELEVISION (3)

*Holmes*

Individual and group projects in the development and production of a television program or series stressing experimental techniques.

## 360. INSTRUCTIONAL METHODS IN EDUCATIONAL RADIO-TELEVISION (3)

*Holmes*

Practical applications of television in the public school classroom; utilization of television programs as an adjunct to instruction; preparation of instructional units for telecasting. Two lec., two lab.

## 370. ECONOMICS OF BROADCASTING (3)

*Summers*

Cost factors in station and network earnings; case studies in budget control, personnel policies and other operating problems.

## 372. BROADCASTING POLICIES AND REGULATIONS (3)

*Summers*

Study of socio-political control of broadcasting; effect of laws, regulations and public pressures upon programming policies.

## 375. BROADCASTING PROGRAMMING (3)

*Summers*

Study of programming concepts, resources, and costs; use of research in program selection and scheduling.

## 379. HISTORY OF BROADCASTING (3)

*Spalding*

The origins of systems of radio and television communication and their development to the present day.

## 385. RADIO AND TELEVISION EDUCATION (3)

*Holmes*

Summary, analysis, application, and evaluation of television and radio research in the teaching and learning process.

## 402. PEDAGOGY AND RESEARCH IN MASS COMMUNICATION-BROADCASTING (3)

*Summers, Saunders*

Advanced study of broadcasting education, its philosophy, curriculum development and course planning; examination of related research.

## 420. BROADCASTING AND NATIONAL POLICY (3)

*Summers*

The role of broadcasting in the fulfillment of national goals and aspirations with emphasis on contributions to the political and cultural development of emerging nations.

## 440. SOCIAL IMPACT OF MASS COMMUNICATION-BROADCASTING (3)

*Saunders*

Group and individual investigation into research methodology and literature on the effects of mass media upon society, with particular reference to broadcasting.

## 484. SEMINAR-PROGRAMMING AND CRITICISM (3)

*Spalding*

## 485. SEMINAR IN EDUCATIONAL BROADCASTING (3)

*Holmes*

## 494. RESEARCH (1-12)

*Staff*

Individual, guided research on special problems. Projects must be approved prior to registration. Prereq., permission.



495. THESIS (As recommended by dept.)  
*Staff*

595. DISSERTATION (As recommended by dept.)  
*Staff*

Note: See also Journalism for courses in radio-television news and advertising.

## SPEECH, PATHOLOGY, AUDIOLOGY AND SPEECH SCIENCE

321. DIAGNOSTIC PROCEDURES IN SPEECH PATHOLOGY (3)

*Ham*  
The role of diagnosis in the evaluation of articulation and voice problems; screening tests, use of statistics in test construction and basic interview and history procedures. 1 to 2 hrs. per week of observation required.

322. NEUROPATHOLOGIES OF SPEECH AND LANGUAGE (3)

*Staff*  
Types, causes, and syndromes and associated problems of the more important neuropathologies of speech and language. 1 to 2 hrs. per week of practicum required. Prereq., 321, or permission.

323. AUDITORY REHABILITATION (3)

*Staff*  
Procedures in the rehabilitation of individuals with hearing losses including lip reading, auditory training and speech conservation.

329. CLINICAL AUDIOLOGY (3)

*Richards*  
Theory and application of speech audiometry, tests of auditory adaptation, and the use of loudness and pitch balancing techniques in determining site of auditory lesion.

347. PRACTICUM IN DIAGNOSIS AND THERAPY (1-12)

*Staff*  
Diagnosis, planning of therapy, treatment, and periodic staffing of clinic patients. Required of all majors. Undergraduates limited to 3 hrs. 1 lec., 3-36 lab. Prereq., 321 or permission.

368. STUTTERING II (3)

*Ham, Williams*  
Nature, causes, development and treatment of stuttering with the emphasis on theory and stuttering problems in adults. Required practicum.

369. PHONETICS II (3)

*Kantner*  
History of phonetics, phonetics in linguistics, and the experimental investigation of speech sound production. Advanced training in sound transcription.

372. VOCAL PATHOLOGIES (3)

*LaFollette*  
Organic and functional voice problems and therapy with emphasis on research problems in diagnosis and rehabilitation. Prereq., 321, and permission.

405. CLINICAL ADMINISTRATION (3)

*Ham, LaFollette*  
Organization and administration of clinical programs in speech pathology and audiology.

418. LANGUAGE PROBLEMS OF THE MENTALLY RETARDED (3)

*Barnett*  
Methods of evaluating the level of language development of the trainable, mentally retarded child with principles of therapy.

419. SPEECH DISORDERS AND OROFACIAL ANOMALIES (3)

*Williams*  
Developmental and traumatic disfunctions of facial structure in relation to speech, audiological, psychosocial, physical and surgical problems. Research techniques and specialized instrumentation.

421. ADVANCED DIAGNOSTIC PROCEDURES (3)

*Ham*  
Evaluative techniques in speech pathology such as laryngeal examinations, respirometrics and differential diagnosis. Special diagnoses, etiologies, tests and methods. Required practicum in diagnostic clinic. Prereq., 321 or equivalent, 9 hrs. psychology, and permission.

422. APHASIA (3)

*Ham*  
Theories in aphasia and evaluation and rehabilitation of adult aphasics. Required observation. Prereq., permission.

423. CEREBRAL PALSY (3)

*Staff*  
Types, related problems, and theories of rehabilitation in cerebral palsy. Prereq., permission.

465. LANGUAGE FOR THE DEAF AND HARD OF HEARING (3)

*Richards*  
Stage by stage instruction for the teaching of speech to deaf and hard of hearing children of all ages. Prereq., 307, 319, 323 or equivalent.

466. ACOUSTIC PHONETICS (3)

*Shallop*  
The acoustic properties of speech and their importance in speech perception. Prereq., permission.

467. PHYSIOLOGICAL ACOUSTICS (3)

*Shallop*  
The ear as a transducer and analyzer. Consideration of the electro-physiological and mechanical properties. Prereq., Psych. 312.

## 468. SEMINAR IN SPEECH SCIENCE (3)

*Shallop*

Advanced study of research and theoretical positions in the areas of speech analysis, perception and production. Prereq., permission.

## 469. LANGUAGE ACQUISITION AND BEHAVIOR (3)

*Barnett*

Analysis of language and cognitive development, verbal learning, and the structural properties of speech and language. Prereq., permission.

## 470. ADVANCED CLINICAL AUDIOLOGY (3)

*Staff*

Advanced techniques in the assessment of hearing losses with particular attention to problem areas and research. Prereq., 466.

## 476. RESEARCH DESIGN (3)

*Staff*

Philosophy of research, formulation of hypotheses, design of experiments, presentation research findings and interpretation of results. Required research projects.

## 492. SEMINAR IN SPEECH CORRECTION (3)

*Staff*

Current literature and advanced research in the field of speech correction. Individual reading projects. Class reports and discussions.

## 494. RESEARCH (1-12)

*Staff*

Individual, guided research on special problems. Projects must be approved prior to registration. Prereq., permission.

## 495. THESIS (As recommended by dept.)

*Staff*

## 595. DISSERTATION (As recommended by dept.)

*Staff*

## THEATRE AND INTERPRETATION

## 303. ADVANCED ORAL INTERPRETATION (3)

*Conover*

Analysis and oral presentation of the principal types of literature.

## 304. ACTING II (3)

*Lane, McGraw*

Rehearsal and performance in roles of different types. 1 lec., 4 lab.

## 306. ADVANCED STAGECRAFT (3)

*Abbott, Winters*

Special problems in planning and mounting scenery and lighting. 3 lec., 2 lab.

## 307. ADVANCED LIGHTING (3)

*Abbott, Winters*

Special problems in lighting design and execution. 3 lec., 2 lab.

## 321. DRAMATIC CRITICISM (3)

*Conover, Walker*

The principles of dramatic criticism from Aristotle to the present.

## 322. DRAMATIC COMPOSITION (3)

*Walker*

Theory and practice of dramatic writing. Prereq., 12 hrs. or 12 hrs English and/or Journalism. May be repeated for maximum credit of 6 hrs.

## 323. SCENE DESIGN (3)

*Abbott, Winters*

Theory and practice of scenic design.

## 324. CONTEMPORARY THEATRE (3)

*Lane*

Trends and developments in 20th century theatre.

## 333. ORAL INTERPRETATION OF DRAMA (3)

*Conover*

Analysis and oral reading of dramatic literature.

## 351. ADVANCED DIRECTING (3)

*Conover*

## 353. DIRECTING PERIOD PLAYS (3)

*Lane*

Principles and techniques of staging pre-modern drama. Prereq., 351 and permission.

## 355. THEATRE MANAGEMENT (3)

*McGraw*

Principles and practices of management in the performing arts.

## 359. STYLES OF ACTING (3)

*Conover, McGraw*

Advanced techniques of acting in relation to the form and content of pre-modern and verse drama. Laboratory experience in the creation of roles. 1 lec., 4 lab. Prereq., 304.

## 377. THEATRICAL COSTUME DESIGN (3)

*Buglio*

Costume design for the theatre; techniques of rendering costume plates, and elements of pattern drafting for period costume. 3 lec., 2 lab.

## 422. RENAISSANCE THEATRE (3)

*Conover*

The development of the theatre from the rise of humanism to the establishment of the Baroque style.

## 423. BAROQUE THEATRE (3)

*Walker*

Detailed study of the Baroque period with special attention to the theatre arts as expressions of the aesthetic, social and political philosophies of the times.

## 424. NINETEENTH CENTURY THEATRE (3)

*Walker*

A study of the major developments of the nineteenth century European theatre in relation to the aesthetic and social forces of the time.

## 447. PROBLEMS IN SUMMER THEATRE OPERATION (3-6)

*Conover, Lane*

Special problems of production and management in relation to the summer theatre program. Maximum credit, 6 hrs.

## 480. SEMINAR IN DESIGN OR TECHNICAL PRODUCTION (3)

*Staff*

Prereq., 18 hrs. including 323 or equivalent.

## 481. SEMINAR IN DIRECTING OR MANAGEMENT (3)

*Staff*

Prereq., 18 hrs. including 351 or equivalent.

## 482. SEMINAR IN DRAMATIC THEORY AND CRITICISM (3)

*Staff*

Prereq., 12 hrs. including 321 or equivalent.

## 483. SEMINAR IN THEATRE HISTORY (3)

*Staff*

## 494. RESEARCH (1-12)

*Staff*

Individual guided research on special problems. Projects must be approved prior to registration. Prereq., permission.

## 495. THESIS (As recommended by dept.)

*Staff*

Prereq., permission.

## STATISTICS

(Minor only)

*Professor Soltow (chairman)*

*Assistant Professors Holliday, Panico (acting chairman)*

A graduate major in statistics is not available. A minor may be developed in this area of study. To begin work in statistics, the student must have completed basic courses satisfactory to the department.

## 303. STATISTICAL QUALITY CONTROL (3)

*Staff*

The application of sampling theory to industrial operations. A course in industrial statistics especially recommended for students interested in production control.

## 310. INTERMEDIATE (3)

*Staff*

Techniques of small sample tests applied in marketing and opinion polling, statistical quality control, economics, and government statistics.

## 341. BUSINESS CYCLES (3)

*Staff*

A study of the nature, causes, and theory of the business cycle together with a survey of techniques of description and control.

## 345. FORECASTING (3)

*Staff*

The theory of prediction of social data and the theory of business forecasting with special reference to economic conditions and the business cycle.

## 350. RECENT TRENDS IN STATISTICAL TECHNIQUES (3)

*Staff*

Applications to business and economics, including input-output tables, quantified economic models, linear programming, and decision making.

## 381. RESEARCH IN BUSINESS STATISTICS (1 to 8)

*Staff*

Prereq., permission

## 391. SEMINAR IN BUSINESS STATISTICS (2 to 4)

*Staff*

Maximum credit in course, 10 hrs. Prereq., permission.

## THEATRE

(See Speech)

## ZOOLOGY

(Bacteriology)

*Professors Elliott, Frey, Seibert (chairman)**Associate Professors Lawrence, McQuate,**W. Peterson, Vallowe**Assistant Professors Heck, Huling, Maier,**Romoser, Wilson**Instructor Allen*

For admission to graduate study in Zoology, a student must have completed at least 18 undergraduate hours in biological sciences. At least one semester each of genetics, anatomy, physiology, and organic chemistry, either at

the undergraduate or graduate level, is required for the master's degree. Undergraduate courses attempted by graduate students at Ohio University must be passed with at least a grade of C.

The student is expected to concentrate his major in some field of Zoology (see Zoology 343 for available areas) and must complete 22 to 26 hours in this and approved related fields. These hours must include Zoology 391 and 485.

A graduate minor is expected to complete 8 to 12 hours of courses approved by the department. A Zoology major may minor in this department if the major-minor areas are considered distinct.

301. COMPARATIVE VERTEBRATE ANATOMY—MAMMALIAN (4)

*Elliott*

The anatomy of mammals with particular emphasis on the cat. 2 lec., 4 lab. (1st sem., yearly.)

302. VERTEBRATE EMBRYOLOGY (4)

*Peterson*

All phases of vertebrate development are considered, and particular emphasis in laboratory is given to the chick and pig. 2 lec., 6 lab. (2nd sem., yearly.)

304. HISTOLOGY (4)

*Heck*

A study of the fundamental body tissues of vertebrates followed by a study of the histology of the various body systems. 2 lec., 4 lab. (2nd sem., yearly.)

305. PRINCIPLES OF PHYSIOLOGY (4)

*Wilson*

A comparative study of regulatory systems in organisms and their relation to chemical and physical events in cells and solutions. 2 lec., 6 lab. Organic chemistry valuable. (1st sem., yearly.)

306. CELLULAR PHYSIOLOGY (4)

*Wilson*

A study of chemistry and structure as related to various functional activities; methods for cell studies. 3 lec., 3 lab. Prereq., organic chemistry. (2nd sem., yearly.)

307. PRINCIPLES OF ENDOCRINOLOGY (4)

*Valloue*

A study of the organs of internal secretion from the standpoint of their phylogeny, embryology, micro-anatomy and physiology. 2 lec., 4 lab. Prereq., 305. (Given upon sufficient demand.)

308. ADVANCED GENETICS (Same as Bot. 308.) (3)

*Cohn, McQuate*

Gene action and fine structure; biochemical, microbial, and radiation genetics; cytoplasmic inheritance. 3 lec. (2nd sem., 1966-67.)

309. PHYSIOLOGICAL CHEMISTRY (2)

*Wilson*

Metabolism of carbohydrates, proteins, and fats; principles of enzyme action; chemistry of and tests for biological compounds. 2 lec., 4 lab. Prereq., organic chemistry. (1st sem., yearly.)

310. RADIATION BIOLOGY (Same as Bot. 310.) (4)

*Larson*

A study of the techniques of the use, detection and interpretation of radioactive tracers in biological problems and the effects of some radiations on living tissue. 2 lec., 4 lab.

311. GENERAL BACTERIOLOGY (4)

*Maier*

A study of the structure, classification, and relationships of bacteria; preparation of cultures, staining, and biochemical reactions. Not open for graduate credit to majors in bacteriology. 2 lec., 4 lab. Prereq., organic chemistry. (Each sem.)

312. PATHOGENIC BACTERIOLOGY (4)

*Lawrence*

Microorganisms in relation to diseases. A study of disease manifestations, methods of transmission, means of protection, and immunity. 2 lec., 4 lab. Prereq., 311. (2nd sem., yearly.)

314. MICROBIOLOGICAL TECHNIQS (3)

*Lawrence, Maier*

A practical course designed to give the student extensive experience in the use of bacteriological techniques and equipment. 6 lab. Prereq., 311. (1st sem., yearly.)

316. ANIMAL PARASITES (4)

*Heck*

Parasites in relation to human disease. Parasites infesting man, their life histories, the diseases they produce, and means of prevention. 2 lec., 4 lab. (2nd sem., yearly.)

317. ADVANCED GENERAL BACTERIOLOGY (4)

*Lawrence*

Growth requirements, enzyme systems, intermediary and end products formed, influence of environmental factors and bacterial taxonomy. 2 lec., 4 lab. Prereq., 311, organic chemistry. 1st sem., yearly.)

319. PHYSIOLOGICAL BACTERIOLOGY (4)

*Maier*

The function and metabolism of bacteria, with pertinent laboratory work illustrating fundamental principles and various experimental techniques. 2 lec., 4 lab. Prereq., 311, organic chemistry. (2nd sem., yearly.)

## 320. ADVANCED ENTOMOLOGY (4)

*Romoser*

Insect morphology and the principles of insect classification and identification, with emphasis on the more extensive orders. 2 lec., 4 lab. (2nd sem., yearly.)

## 323. PROTOZOOLOGY (4)

*Peterson*

Life histories, physiology and relationships of representatives from all major groups of protozoa. 2 lec., 4 lab. (1st sem., 1966-67.)

## 325-326. INVERTEBRATE ZOOLOGY (4-4)

*Huling*

Structure, relationships, and life histories of representative members of the various invertebrate phyla, together with related general principles. 2 lec., 4 lab. Prereq., permission. (1967-68.)

## 327. ANIMAL ECOLOGY (4)

*Seibert*

An introduction to population dynamics; the role of temperature, photoperiod, energetics, on ecological distribution. Experimental methods in field and laboratory. 2 lec., 4 lab. or field work. (1st sem., 1967-68.)

## 331. EVOLUTION (2)

*Seibert*

The evidence for, and current ideas and research on, the mechanisms of organic evolution. (1st sem., 1967-68.)

## 335. GENERAL BIOCHEMISTRY (3)

*McQuate*

The structure, properties, and metabolic significance of the important constituents of living matter. 3 lec. Prereq., 305. (1st sem., yearly.)

## 336. GENERAL BIOCHEMISTRY LABORATORY (2)

*McQuate, Wilson*

A laboratory course to accompany Zool. 309 or 335. 6 lab. Prereq., 309 or with 335, or with 309 or 335. (Each sem.)

## 343. BIOLOGICAL STUDIES (1 to 4 a semester in any of the following areas)

Semi-independent studies under the guidance of the instructor. Maximum credit in any one area, 8 hrs. Prereq., permission.

a. *Bacteriology*—studies in water, dairy, and pathogenic bacteriology; serology and advanced technic.

*Lawrence, Maier*

b. *Ecology*—field and laboratory studies of the relationship between animals and their surroundings.

*Seibert*

c. *Entomology* — classification, physiology, life histories, and economic aspects of insects.

*Romoser*

d. *Genetics*—breeding experiments and library work in the field of heredity.

*McQuate*

e. *Invertebrate Zoology* — classification, structure, embryology, and life history of invertebrates.

*Huling, Peterson*

f. *Parasitology*—animal parasites.

*Heck, Peterson*

g. *Physiology and Biochemistry* — physiological and related experimental studies.

*Vallowe, Wilson*

h. *Readings in Biology*—biological history, theory and advances.

*Staff*

i. *Vertebrate Anatomy*—gross and microscopic anatomy, embryology, historical technic.

*Allen, Elliott, Peterson*

j. *Vertebrate Zoology* — classification, life history studies.

*Seibert, Vallowe.*

## 382. ADVANCED TOPICS (1 to 4)

*Staff*

Specialized topics not otherwise available to advanced students. Prereq., permission.

a. *Biochemistry of Reproductive Hormones.*

*Vallowe*

b. *Radiation Physiology.*

## 391. SEMINAR IN ZOOLOGY (1)

*Staff*

Presentation of research or readings in current literature. Required. Prereq., permission. (Each sem.)

## 413. BACTERIOLOGICAL REVIEW (2)

*Frey, Lawrence, Maier*

An advanced theoretical course in bacteriology. Prereq., permission. (Given upon sufficient demand.)

## 415. PHYSIOLOGICAL REVIEWS (2)

*Wilson*

An advanced lecture and conference course, involving literature review in various specialized phases of physiology and biological chemistry. Prereq., permission. (Given upon sufficient demand.)

## 442. ADVANCED BIOCHEMISTRY (3)

*McQuate, Wilson, Winkler*

Same as Chem. 442.

## 485. RESEARCH IN BIOLOGY (1 to 4)

*Staff*

Research work in all areas listed under 343. This course fulfills the thesis requirement. Maximum credit in course, 4 hrs. Prereq., permission.

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OHIO UNIVERSITY BULLETIN  
OHIO UNIVERSITY Athens, Ohio 45701

Return Requested

ENTERED AS SECOND CLASS MATTER  
AT ATHENS, OHIO

# OHIO UNIVERSITY BULLETIN

**INFORMATION FOR PROSPECTIVE  
GRADUATE STUDENTS  
1966-1967**



The fees, programs, and requirements contained in this bulletin are effective with the September, 1966 Session. They are necessarily subject to change without notice at the discretion of the University.

Volume LXII

DECEMBER, 1965

Number 7

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THIS ABBREVIATED ISSUE of the *Graduate College Bulletin* provides information of interest to prospective graduate students. Students are invited to write to the Graduate Chairman of the department of their interest for detailed information about courses, programs, departmental facilities etc.

The regular *Graduate College Bulletin* will be sent upon request, to students who expect to enroll at Ohio University. A student requesting the regular bulletin after having received this abbreviated issue should indicate clearly that he has *this* issue; *otherwise*, the probability is that he will receive a second copy of this rather than the regular bulletin.

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Library Science

# 1966-1967 CALENDAR

## THE 1966 SUMMER SESSION

First term June 13 to July 19

Second term July 21 to August 27

For complete announcements see the Summer Session Bulletin.

## FIRST SEMESTER 1966-1967

### 1966

Sept. 13 Tues.	Registration for students who did not pre-register.
Sept. 14 Wed.	Classes begin
Sept. 27 Tues.	Last day to apply for admission to candidacy for a master's degree on January 28. Last day to register for the semester. Last day to file application with payment of fee for graduation on January 28. Last day to add a course by change order.
Oct. 1 Sat.	Last day to withdraw from a course.
Oct. 8 Sat.	Last day for partial refund of fees to students who withdraw.
Oct. 22 Sat.	Last day to remove incomplete grades incurred during last session in residence.
Nov. 23 Wed.	Thanksgiving recess begins at noon.
Nov. 28 Mon.	Classes resume with first scheduled class.
Nov. 30 Wed.	Advising for second semester; classes dismissed.
Dec. 17 Sat.	Christmas recess begins after last class.

### 1967

Jan. 4 Wed.	Classes resume with first scheduled class.
Jan. 19 Thurs.	Last day of classes Last day for degree candidates to take oral examination on thesis or dissertation.
Jan. 20 Fri.	Examinations begin.
Jan. 21 Sat.	Theses and dissertations due in library and abstracts due in Graduate College office. Incomplete and pending grades of candidates due in registrar's office by 4:00 p.m.
Jan. 26 Thurs.	Examinations end.
Jan. 28 Sat.	Semester closes; commencement.

**SECOND SEMESTER 1966-1967**

Jan. 30 Mon.	Semester opens.
Feb. 1 Wed.	Registration for students who did not pre-register.
Feb. 2 Thurs	Classes begin.
Feb. 15 Wed.	Last day to apply for admission to candidacy for a master's degree on <b>June 4</b> . Last day to register for the semester. Last day to file application with payment of fee for graduation on <b>June 4</b> . Last day to add a course by change order.
Feb. 18 Sat.	Last day to withdraw from a course.
Feb. 25 Sat.	Last day for partial refund of registration fees to students who <b>withdraw</b> .
Mar. 11 Sat.	Last day to remove incomplete grades incurred during last semester in residence.
Mar. 25 Sat.	Spring recess begins after last class.
Apr. 3 Mon.	Classes resume with first scheduled class.
May 23 Tues.	Last day of classes. Last day for degree candidates to take oral examination on thesis or dissertation.
May 24 Wed.	Reading and review day; advising for September.
May 25 Thurs.	Examinations begin. Theses and dissertations due in library and abstracts due in Graduate College office. Incomplete and pending grades of candidates due in registrar's office by 4:00 p.m.
May 30 Tues.	Memorial Day holiday.
June 1 Thurs.	Examinations end.
June 4 Sun.	Commencement.

# GENERAL INFORMATION

## PROFILE OF OHIO UNIVERSITY

Ohio University, chartered in 1804 by the First General Assembly of Ohio, is a symbol of America's early realization of the importance of education. The Ordinance of 1787 which created the Northwest Territory provided: "Schools and the means of education shall forever be encouraged."

In 162 years, Ohio University has grown from a single building to 76 principal buildings covering 745 acres. The main campus, with an enrollment of 14,000 in seven colleges and six schools, is located in Athens, a city of 12,000 in scenic southeastern Ohio. In addition, more than 5000 students are enrolled in branch campuses at Belmont County, Chillicothe, Ironton, Lancaster, Portsmouth, Zanesville, and the educational center at Lockbourne Air Force Base.

Creativity, academic excellence, and moral and social development are of primary concern at Ohio University. Bold programs such as the Honors College, the Internship, and four-year curricula leading to both bachelor's and master's degrees provide Ohio's students with a challenge to achieve excellence.

Committed to excellence and academic growth, Ohio University has begun an extensive building program to meet the rapidly increasing needs of students and faculty. The program includes a 25 million dollar science-engineering campus under construction, a new seven story, six and one-half million dollar library, a seven million dollar, 14,000 seat convocation center, a music building and an educational radio-television center. Construction has begun on a sixteen million dollar, four residence hall and one dining hall complex to supplement the 27 residence halls already in existence.

A wide variety of programs is offered to the undergraduate student. Degree colleges include Arts and Sciences, Business Administration, Engineering and Technology, Education, Fine Arts and the University College. The Graduate College offers master's degree work in 38 areas of study and 18 doctoral programs.

The campus is located 76 miles southeast of Columbus, Ohio, the state capital, and 40 miles west of Parkersburg, West Virginia, and is easily accessible on U. S. Routes 33 and 50. Athens is on the main line of the Baltimore and Ohio Railroad, between Washington and Cincinnati. A

University-owned airport, with a 3200 foot paved, lighted runway, is located one mile east of the campus on U. S. Route 50 east and is open to the public.

The University's academic calendar consists of two eighteen-week semesters and a summer session of two five and one-half week terms. Many students find it advantageous to register for all sessions, which provides the opportunity for unbroken year-round study and research. Graduate assistants have the added opportunity of study with waiver of the general registration fee during the summer sessions immediately preceding and following the period of their regular appointment. Some graduate appointments and scholarships are available in the summer session as well as in the regular academic year.

The University is accredited by the North Central Association of Colleges and Secondary Schools, and by the recognized professional accrediting associations identified with its major academic divisions. The University also holds membership in the leading state and national educational and professional associations in major areas of interest.

## FACILITIES AND SERVICES

Graduate students have full use of all University facilities and may avail themselves of all its services.

### UNIVERSITY LIBRARIES

The Edwin Watts Chubb Library houses the main collection of 400,000 volumes, including periodical sets and documents. The collection is shelved in the stacks to which all students have access. About 1800 periodicals are received regularly.

There are extensive resources of microfilm, microcard, and microprint. The library has a reader-printer, a microfilm camera, and Xerox copiers. Fully staffed departmental libraries are maintained for the College of Education and the College of Fine Arts, and specialized collections on a less formal basis are administered in connection with the College of Business Administration, the School of Music, and the Departments of Botany, Chemistry, Geology, Physics, and Zoology.

Special collections in the Chubb Library include the valuable J. W. Morgan Collection of historical books in chemistry and other physical sciences, the University's rare book collections, and the University Archives.

## STUDENT HEALTH SERVICE

The Student Health Service facilities, located in the Hudson Health Center, include an out-patient department and a 90-bed hospital section and ancillary services, which include x-ray, clinical laboratory, physiotherapy and electrocardiography.

The Health Service maintains a continuous health record on each student, beginning with the report of medical history and physical examination by the family physician which is required for admission to the University.

A tuberculin skin test is required of each new student and is given at the Center at the time of entrance to the University. All positive skin reactors receive a chest x-ray annually. Negative reactors are urged to be retested each year. This program provides a means of early detection of tuberculosis for the individual student and protection for the academic community.

The Director of the Health Service and the Director of Environmental Health jointly have the responsibility and the authority to exercise precautions to prevent the spread of communicable diseases and to maintain proper standards of health and sanitation on the campus.

The Health Service staff includes seven full-time physicians, a University psychiatrist, 25 registered nurses, a Director of Environmental Health, and a University Sanitarian, as well as registered laboratory and x-ray personnel.

**MAJOR MEDICAL INSURANCE PLAN.** A major medical insurance plan, specifically designed to supplement the care provided by the Student Health Service, is mandatory for every full-time student at an annual premium of \$16 unless the student submits evidence that he is covered by a comparable private insurance plan.

The plan provides protection against major medical and surgical expenses and is effective for one year, not only while in Athens, but at all times wherever the student may be. In addition to the medical and surgical benefits payable under the terms of the group plan contract, an accidental death payment is a provision of the policy.

**PERSONAL ADJUSTMENT COUNSELING.** The Center for Psychological Services maintains a staff of professional counselors to assist students whose effectiveness and adjustment are hampered by personal concerns.

Psychological tests are often administered to such persons for the purpose of adding to the counselor's understanding of the individual and his problems. The services are completely confidential.

## PLACEMENT SERVICES

The University Placement Service has two divisions. The *Educational Placement Bureau*, located in McCracken Hall, affords students, former students, and graduates of the University assistance in securing teaching and administrative positions in public schools and in Education departments of colleges and universities.

The *University Placement Service*, located in Berry Hall, offers assistance to those wishing to secure positions in business and industry and in colleges and universities (except Education departments).

A charge of \$2 a year is made for each year in which assistance is requested.

## RECREATIONAL AND CULTURAL ACTIVITIES

### THE JOHN CALHOUN BAKER UNIVERSITY CENTER

The Baker Center provides facilities for the cultural, social and recreational benefit of the students. The building contains three lounges, a large ballroom, dining rooms, cafeteria, snack bar, library and record listening room, television, conference rooms, and recreational areas for bowling, billiards, table tennis and cards.

### RECREATION

Recreational facilities available to students are the natatorium, the indoor ice skating rink, a golf course adjacent to the campus, and tennis and handball courts.

Feature motion pictures are shown three nights a week in Memorial Auditorium.

Four of the state's most scenic areas are located near Athens, and are used as weekend retreats by students and faculty members. Included are Dow Lake, a new lake located east of Athens in a 2000-acre state park, used by the University for educational and research projects; Lake Hope, located in the heart of Zaleski State Forest; the caves and gorges of the Hocking Park area; and Burr Oak Lake, Glouster.

### CULTURAL PROJECTS

The University annually invites guest artists and other distinguished persons to spend time on the campus lecturing, appearing in recitals, and talking informally with interested students.

The University sponsors a concert series, bringing to the campus internationally famous instrumentalists and vocalists, symphony orchestras, opera and ballet companies and chamber music groups.

The Edwin and Ruth Kennedy Lecture

Series has brought many distinguished persons to the campus including Adolph A. Berle, Charles Malik, John Ciardi, William O. Douglas, Arnold Toynbee, Margaret Mead, and Charles Frankel.

The College of Fine Arts plans many events of a cultural nature each year. In addition to the numerous concerts and plays which are presented by the students and faculties of the School of Dramatic Art and Speech and the School of Music, the two schools cooperate in campus-wide productions of outstanding musicals.

For over two decades the School of Painting and Allied Arts has sponsored the Ohio Valley Oil and Water Color Show, a competition open to artists of Ohio, Illinois, Indiana, Kentucky, West Virginia and Pennsylvania. The University is building a permanent collection of paintings, many of which are purchased from this show. A program of art exhibitions is conducted throughout the year.

The Ohio Valley Summer Theatre, sponsored by the School of Dramatic Art and Speech, produces annually a series of six outstanding plays.

#### HONOR SOCIETIES

Ohio University has chapters of Phi Kappa Phi and the Society of Sigma Xi. The former recognizes scholarly accomplishments of graduate students in all fields of study. The latter honors those in the sciences who have given evidence of outstanding ability in scholarship and research.

### LIVING ARRANGEMENTS

Application for housing is made to the Director of Housing, Ohio University, Athens, Ohio 45701.

Rooms in private residences are listed with the Director of Housing and have been inspected and approved by the University. Graduate students are not restricted to the homes on the approved list, but may reside in apartments and residences not approved for undergraduate students.

A student renting a room in a private home is expected to remain in the home for one semester unless satisfactory arrangements are made with the householder.

Students living in private homes may arrange to eat in Baker Center cafeteria, but must continue such arrangements throughout the semester. Such arrangements for board are made in the office of the Director of Housing. The cost of board in University halls is \$234 a semester for 21 meals a week. Meals are served through-

out the academic year except during the Thanksgiving, Christmas and Spring recesses. Board rates are subject to revision, in accordance with prevailing economic conditions.

The University owns and operates several facilities to meet the housing needs of married students. All applicants must be institutional full-time students (graduate assistants at least eight hours). An assignment to University married student facilities includes the obligation and responsibility to meet the terms and conditions of occupancy as stipulated in the contract agreement.

Married student facilities include fifty-two permanent brick units on Wolfe Street adjacent to the University Golf Course, and the University Trailer Park on East State Street adjacent to the University Airport, which accommodates 45 privately-owned trailers.

The apartments are complete with basic furnishings including range and refrigerator, a hide-a-bed, a six-drawer chest, kitchen table with four straight chairs, combination desk-dresser, double bed, two lounge chairs, and a wall mirror. Laundry rooms with coin-operated automatic machines are available to residents. Rentals per month, including utilities, are \$70 for the studio apartment, \$85 for the one bedroom, \$95 for the bedroom and nursery, and \$110 for the bi-floor unit.

The University Trailer Park space rental is \$18 per month, which includes water and sewage. Toilet, bathing and coin-operated laundry facilities are provided. Electricity costs are not covered by the rental fee. Bus service to the campus during regularly scheduled class hours is available at no cost.

Assignment to apartments or trailer park is made when available on the basis of the date of receipt of application with an accompanying security deposit of \$25. The deposit is refunded after the apartment is vacated, if certain conditions are met.

Since present University facilities for married students are not sufficient to meet the demand, many married students live in privately operated apartments and houses in Athens. Rents vary with size and accommodations. The Lakeview Manor Apartments, the Athens Apartments, the Concord Place Apartments and the Carriage Hill Apartments are projects that accommodate married students, faculty and community residents.

For further information concerning married student housing write to the Director of Housing, Ohio University, Athens, Ohio.

# ADMISSION REQUIREMENTS AND STUDY REGULATIONS

## ADMISSION

A student holding a bachelor's degree from an accredited college or university who has attained an undergraduate scholastic point-hour ratio of 2.5 or better on hours attempted, and preferably a 3.0 (B) in the area of the proposed major, will be considered for admission with *regular status* in the Graduate College. (Point-hour ratio is computed on a 4-point system: A—4, B—3, C—2, D—1.) Further supporting evidence of the student's ability in the form of the Graduate Record Examination, Admission Test for Graduate Study in Business, Miller Analogies Test, or other college ability tests and letters of recommendation may also be requested.\*

A student holding a bachelor's degree from an unaccredited institution or a person whose undergraduate preparation is deficient will be required to supplement his undergraduate record with a satisfactory score on an acceptable standard college ability test.\*

A student with a master's degree will be considered for admission to graduate study for the doctorate, with the amount of graduate credit accepted by transfer subject to review and recommendation by the graduate committee of the department concerned.

All correspondence pertaining to the admission of a student to the Graduate College should be addressed to the Dean of the Graduate College, Ohio University, Athens, Ohio.

Application for admission consists of the presentation of application blanks filled in by the applicant, an official transcript

\*Those who have taken any of these tests are urged to have their scores reported to the Graduate College, Ohio University.

Further information about the Graduate Record Examination (given in January, April, July, and November) or the Admission Test for Graduate Study in Business (given in November, February, April, and July) may be obtained by writing to the Educational Testing Service, Princeton, New Jersey 08540. Applicants in the West Coast region should write to the E.T.S., 1947 Center St., Berkeley, Calif. 94704.

Information on the Miller Analogies Test may be obtained from The Psychological Corporation, 304 E. 45th St., New York, N.Y. 10017.

Students on the Ohio University campus may obtain test application forms from the Graduate College or the Testing Center.

from *each* school attended, (sent directly to the Graduate College) a vaccination blank certified by a physician, and a medical history blank filled in by the applicant and completed by a physician.

*Applications for admission together with the \$5 application fee, (a check or money order payable to Ohio University) and supporting credentials, including official transcripts for all academic work, should be received at least three weeks in advance of registration for the semester or the summer term in which the student wishes to begin graduate study.*

## STUDY REGULATIONS

### ASSIGNMENT TO ADVISERS.

A student who qualifies for admission to the Graduate College confers with the departmental chairman or the chairman of the graduate committee who has supervision over the subject matter in the area of his major interest. The chairman will assign a faculty adviser in the major field to counsel with the graduate student and prepare the outline of graduate study. A copy of the outline is returned early in the initial term of study to the Graduate College office where it is filed and becomes a part of the record of the graduate student.

### STANDARDS OF WORK

The minimum standard is a grade point average of 3.0 (B) on all graduate work attempted. Of all the hours counted toward the satisfaction of degree requirements, no more than 20 per cent can be below B. No grades below C can be used to satisfy degree requirements. A grade of S (satisfactory) or U (unsatisfactory) will be recorded for thesis, dissertation, and seminar. The designation of "pending" on a problem, thesis, research, or seminar course must, by arrangement with the instructor, be removed within one year after the official closing of the session in which the course was taken. An "incomplete" in all other courses must be removed within six weeks after the opening of the next session in

which the student is in residence. *S* or *U* for thesis or dissertation is not indicated until the completion of the thesis or dissertation oral examination.

### COURSES FOR GRADUATE STUDY

Credit toward a graduate degree is given for the completion of courses designed for graduate students (numbered 400-599) and courses designed for advanced undergraduates and graduates (numbered 300-399), provided the courses are included in the student's approved program of study.

### APPLICATION FOR GRADUATION

The student must apply for graduation through the office of the Registrar at the time indicated in the University Calendar. If the requirements for the degree are not fulfilled within the designated semester the student must reapply for graduation.

The university graduation exercises are conducted to honor those who have earned their degrees. The graduate is expected to attend the commencement exercises unless excused by the Dean of the Graduate College. Academic costumes with the appropriate hoods are worn by the candidates as a part of the ceremony. The candidate will make his own arrangements for rental of the appropriate academic costume through the campus agency provided for this service. The doctoral hood is bestowed by the University and need not be rented.

## FEES

(Effective September, 1966)

### REGISTRATION FEES

Payment of all assessed fees at the times designated is prerequisite to official enrollment. Checks and money orders should be drawn in favor of Ohio University in the exact amount of the fees. Postdated checks are not acceptable. Checks not paid on presentation to the bank will automatically cancel any receipts given and result in assessment of penalties.

At a slight additional expense, the payment of the basic charges may be spread over the four month period, August to November, for the first semester, and February to May for the second semester. Election of this payment plan must be made in advance. Students who wish to elect the plan should request the pamphlet on fee equalization.

Ohio University reserves the right to make, without prior notice, any fee adjustments that may become necessary.

	Resident of Ohio	Non- Resident
Matriculation Fee (nonreturnable)		
Required of every student on first enrollment in the University -----	\$ 10.00	\$ 10.00

### The Semester:

*Comprehensive fee* includes the general registration fee; the student activity fee; student service fees such as health, library, and testing; and course and laboratory fees. Excludes fees for private instruction, as in music, which are listed in the course descriptions.

Hours		
1	\$ 28.00	\$ 56.00
2	56.00	112.00
3	84.00	168.00
4	112.00	224.00
5	140.00	280.00
6	168.00	336.00
7	196.00	392.00
8	224.00	448.00
9 to 14 inclusive	250.00	500.00
For each hour in excess of 14 add	28.00	56.00
to the comprehensive fee of	250.00	500.00

*Note:* The fee for 1 to 6 hours does not carry with it the privilege of a student activity card or the use of the Health Service.

Auditors pay fees in full as above.

### The Summer Session:

Fees are proportionate amounts of the semester fees. See Summer Session Bulletin for details.

### REFUND OF FEES

Voluntary and official withdrawal from the University entitles the student to a refund of 80 per cent of the comprehensive fee if he withdraws within the first or second week of a semester, and 50 per cent if he withdraws within the third or fourth week. A week is interpreted to mean a calendar week and ends at noon on Saturday. Refunds are issued thirty days after the date of withdrawal.

If a student withdraws from the University before he pays his registration fees or before he completes the payment of his registration fees, he is considered indebted to the University for the amount determined according to the refund regulations.



## MISCELLANEOUS FEES

Admission Application filing fee ----	\$ 5.00
Change of course -----	2.00
Duplicate official forms, fee receipts, grade report, etc. -----	1.00
Examination for advanced standing, each semester hour -----	5.00
Graduation—	
Application for degree -----	15.00
Re-application -----	5.00
Penalty for late application -----	5.00
Diploma mailing fee for those excused from commencement -----	2.00
Late registration or late payment of fees—\$3.00 Minimum, \$10.00 Maximum	
Microfilming fee, required of Ph.D. candidates -----	25.00
Thesis and Dissertation Binding, Each copy -----	3.75
Transcript of record, after first transcript request -----	1.00
Group requests of five to ten copies, \$5.00; up to twenty copies, \$10.00	

## CLASSIFICATION OF STUDENTS

## DEGREE

1. Those students approved by the major department and the Dean of the Graduate College for unqualified admission to graduate study are granted *regular status*.

2. Those students who have some deficiency in entrance requirements may be approved by a major department and the Dean of the Graduate College for admission with *special status*. Students in this category may achieve regular status after the satisfactory completion of a prescribed program of study to remove deficiencies.

## NON-DEGREE

1. A graduate student who is attending a graduate school in another university may be admitted as a *transient* student by submitting an application and presenting an official statement of good standing from the dean of the graduate school in which he is enrolled. The student must request

permission to register as a transient student each semester prior to registering at Ohio University.

2. A student who wishes to receive graduate credit for a *workshop or institute* must make application for admission to the Graduate College for the workshop or institute only. Approval for such admission does not constitute regular admission to the Graduate College. The student must request permission to register for each subsequent workshop or institute he wishes to attend.

3. A student who wishes to take a graduate course with no intention of qualifying for a graduate degree must apply for admission to the Graduate College as a *non-degree* student. The student must request permission to register for each subsequent course as a non-degree student.

## SENIORS AND GRADUATE STUDY

A student who is within 9 hours of completing all requirements for the bachelor's degree at Ohio University may take courses applying toward the master's degree, provided he otherwise meets the requirements of admission and secures the written recommendation of the dean of his college, the chairman of his major department, and the approval of the Dean of the Graduate College. This privilege may also be extended to well-qualified seniors of other colleges who have 9 or fewer semester hours to complete for their bachelor's degree. Request for the above privilege must be made in advance of registration through the Graduate College office.

## EARLY ADMISSION TO THE GRADUATE COLLEGE

A superior student with senior standing may, with the written endorsement of the chairman of his major department and the approval of the Dean of the Graduate College, be enrolled in graduate courses for graduate credit. Under unusual circumstances non-senior students may be considered for this program. The courses may be used to satisfy both undergraduate and master's degree requirements.

# FINANCIAL AIDS

## GRADUATE ASSISTANTSHIPS AND FELLOWSHIPS

A number of graduate assistantships and fellowships are available in the Graduate College of Ohio University. Persons receiving these appointments are selected on a basis of merit from students who have received the baccalaureate degree from approved institutions and who wish to pursue work leading to the graduate degree.

Graduate assistantships provide a stipend of \$2,200 to \$2,400 for the academic year of two semesters and waiver of all fees, resident and non-resident, with the exception of a \$55 incidental fee. The graduate assistant is required to give approximately 18 hours of service weekly (six to eight contact hours in laboratory or lecture) to the University, and is permitted to carry 8 to 11 hours of graduate work.

The general registration fee will also be waived during the summer sessions directly preceding and following the period of a graduate assistant's appointment.

A graduate assistant continuing study for a second year is eligible for consideration for reappointment to the assistantship. The assistant who has completed two semesters of service with an exceptionally good record may, on the recommendation of his department, be reappointed for a second year at an increased stipend with waiver of the fee as noted above.

Graduate assistantships are usually available to qualified students in the following fields: accounting, art, bacteriology, botany, business administration, chemistry, dramatic art, economics, education, engineering, (including chemical, electrical, mechanical and civil), English, finance, fine arts, geology, government, history, home economics, human relations, industrial arts, journalism, linguistics, management, mathematics, modern languages, music, philosophy, photography, physical education, physics, psychology, public address, radio-television, sociology, speech pathology and audiology, and zoology.

A number of teaching fellowships in chemistry, education, electrical engineering, English, fine arts, linguistics, physics, psychology, public address, radio-television and

speech pathology and audiology, leading to the doctorate, are awarded to persons in advanced graduate study who have completed the master's degree or its equivalent and who have some teaching experience. The stipends, based upon both experience and teaching responsibility, range from \$2400 to \$4200 for two semesters of service, with the same provisions for waiver of fees as the graduate assistantships.

Research assistantships are established on the basis of grants-in-aid to the University for the conduct of research. Appointees to these assistantships must show exceptional aptitude for research. Their obligation involves the promotion of the research program of the department through which the grant is made. Research assistants have no instructional service to perform and may normally carry 8 to 11 semester hours of work toward the completion of their graduate program. In general, the stipend and waiver of fees will be the same as those of a graduate assistantship.

## APPOINTMENTS IN PERSONNEL WORK

Residence hall assistantships are open annually. Appointments are made on the recommendation of the Personnel Deans. Stipend and other terms are similar to those of other graduate assistants.

Graduate appointments are also available to married men as Resident Directors in the residence halls for men. The compensation for this service is a furnished apartment and board for the Resident Director and his family, and a stipend plus the waiver of fees as indicated for the graduate assistant. The Resident Director will supervise the functions of the residence hall and coordinate the responsibilities of graduate assistants assigned to work with him. He is normally permitted 9 hours of course work per semester.

Applications for all graduate appointments should be filed with the Dean of the Graduate College by March 1. Application blanks may be obtained from the office of the Graduate College.

## SCHOLARSHIPS

University scholarships are available to incoming graduate students who have maintained a 3.0 (B) undergraduate average, and to graduate students who have maintained at least at 3.25 graduate average. These require full-time study and pay the general registration (resident or non-resident) fee. Information may be obtained by addressing the Graduate College, Ohio University, Athens, Ohio.

## FEDERAL TRAINEESHIPS AND FELLOWSHIPS

Ohio University participates in the NDEA Fellowship program, NSF Traineeship program, NASA Traineeship program, VRA Traineeship program, Environmental Health Traineeship program, etc. Inquiries about the provisions and availability of appointments in these programs should be directed to the department of the student's interest.

## LOANS

For a student to be eligible for a loan, he must be accepted for enrollment at Ohio University, be in good standing at his undergraduate alma mater, and show justifiable financial need for the amount of the loan to pursue a course of study.

Graduate students are eligible to apply for a loan of up to \$2500 in one academic year and \$10,000 in the aggregate. The interest rate is three percent on the unpaid balance and the interest accrues beginning one year after graduation. The first pay-

ment is due two years after graduation unless deferred while the borrower is attending an institution of higher education as a full-time student and during any period, not to exceed three years, in which the borrower is a member of the Armed Forces or is serving with the Peace Corps or VISTA. Repayment of the principal of the loan is to be made over a ten-year period. The borrower may, however, accelerate his repayment and reduce the total interest charged.

Up to one-half of any loan, in addition to accrued interest, is cancelled for service as a full-time teacher in a public or private non-profit elementary or secondary school, or in an institution of higher education. The loan and interest is cancelled upon death or permanent and total disability of the borrower.

All loans must be evidenced by a note and the Ohio University Financial Aid Committee requires a co-signer in all cases, preferably a parent or guardian. This regulation applies to those students of legal age, regardless of their marital status. The deadline for a NDEA loan is June 1 for the fall semester or for the entire academic year, and November 15 for second semester applications only. Summer school application deadline is May and results are forwarded at the end of May.

Further information concerning the loan program and forms for applying for loan assistance may be requested of the Director of Student Financial Aids, Ohio University, Athens, Ohio 45701.

# THE GRADUATE PROGRAM

The graduate program at Ohio University provides advanced professional training in the area of a student's field of specialization and affords opportunities for the conduct of research and special investigations. The program of graduate study should become an initiation into methods of intensive study and research in some selected area of knowledge. It is the objective of the Graduate College to provide its students with a high degree of professional competence.

Graduate degrees are granted in the following areas:

- Accounting
- Architecture (minor only)
- Art
- Art Education
- Bacteriology
- Botany
- Business Administration
- \*Chemistry
- Classical Languages (minor only)
- Dramatic Art and Speech
  - \*Public Address
  - \*Radio-Television
  - \*Speech Pathology and Audiology
- Theatre
- Economics
- \*Education
  - \*Elementary
  - Secondary
  - \*Administration and Supervision
  - \*Guidance, Counseling, and Student Personnel
- Engineering
  - Chemical
  - Civil
  - \*Electrical
  - Mechanical
- \*English Language and Literature
- \*Linguistics
- \*Fine Arts
- Geography (minor only)
- Geology
- Government
- History
- Home Economics
- Human Relations
- Industrial Arts
- Journalism
- Mathematics
- Modern Languages
  - French
  - German
  - Russian (minor only)
  - Spanish
- Music

- Music Education
- Philosophy
- Photography
- Physical Education and Athletics
- \*Physics
- \*Psychology
- Sociology and Anthropology
- Zoology
- \*Ph.D. granting areas

## THE MASTER'S DEGREE

### RESIDENCE AND CREDIT

At least 30 semester hours of credit are required for the master's degree. Additional hours may be required by individual departments. A maximum of 8 semester hours of graduate credit with A or B grades may be accepted by transfer from approved institutions which offer the master's degree, provided the transferred course work is acceptable to the student's adviser and is *not more than five years old*. Credit for courses taken by correspondence is not accepted toward the degree. At least 22 hours of graduate credit must be earned on the campuses of Ohio University. At least one semester or two summer terms (not necessarily consecutive) must be spent in an institutional full time status on the Athens campus. Exceptions must be approved by the Graduate Council. A graduate student who is employed full time may, with the approval of his major adviser and the Dean of the Graduate College, carry a maximum of 6 hours of credit in a semester or a summer session of eleven weeks.

A student seeking the master's degree under either the thesis or the nonthesis plan *must be officially registered for at least one semester hour of credit in the session in which he receives his degree*. The adviser may recommend that registration be for more than the stipulated hour.

### REQUIREMENTS FOR THE MASTER'S DEGREE

For the Master of Arts, Master of Education, Master of Science, Master of Fine Arts, or Master of Business Administration degree the student may write a thesis under the direction of his adviser on a subject approved by the graduate committee of the department.

Nonthesis programs, with a minimum

requirement of 30 semester hours, are available in selected areas. At present they are:

For the *Master of Arts* degree in English, History and Speech non-thesis programs are available.

For the *Master of Business Administration* degree and the *Master of Science* degree with a major in Accounting nonthesis options are provided.

For the *Master of Education* degree an optional program is available which includes a minimum of 32 semester hours, with appropriate experience in writing in a seminar course. This program of study is also available to students of Physical Education, Industrial Arts, and Home Economics, as well as Education. Other areas of study may be included. These programs are designed especially for teachers, administrators, and others engaged in and preparing for educational work in the public schools.

All programs for majors in Education leading to the Master of Education degree will include Education 488, Introduction to Graduate Study, which provides training in research methods and writing appropriate to the work of teachers and administrators.

Students in other areas which make provision for the Master of Education degree with the nonthesis option are referred to the specific requirements in their field of study.

For the *Master of Fine Arts* degree with a major in applied music a public recital and a recording may be offered in lieu of thesis.

For the *Master of Fine Arts* degree in Painting, Sculpture, or Photography, involving completion of a minimum of 48 semester hours, a show may be given in partial fulfillment of the thesis requirement.

## PROGRAMS OF STUDY AND STUDENT LOAD

A student's program of study is made up of two parts, a major and a minor, unless a program otherwise arranged is approved by the adviser and the graduate committee of the department. Since graduate work implies advanced study and some degree of specialization, a certain amount of undergraduate preparation in a subject or field of study is presupposed before graduate study may be undertaken in that subject or field. In most departments a minimum of 18 semester hours of undergraduate work is required for the major. The student is referred to the requirements listed by departments. The program in the

major field varies from 12 to 20 semester hours exclusive of research and thesis (under the thesis plan), with a total of two to six semester hours allowed for research and the thesis. The minor field in such cases make up the remainder of the program required for the degree and is selected from one or two fields of instruction closely related to the major field. A minimum of eight or nine semester hours constitutes the requirement for a single minor and a minimum of six semester hours in each of two areas of study the requirement for a joint minor. All of the work for the master's degree may be done in one department, school, or field on recommendation of the adviser and with the approval of the graduate committee of the department.

The maximum full-time academic load for a graduate student is 16 credit hours per semester (12 hours in the summer session of eleven weeks).

## ADMISSION TO CANDIDACY

Admission to the Graduate College does not constitute admission to candidacy for a degree. In order to be admitted to candidacy for the master's degree, a student must have demonstrated ability and fitness to pursue graduate work in his chosen field by completing a minimum of 12 semester hours of graduate work with a scholastic average of 3.0 or above within his program of graduate study. A further condition of admission to candidacy is the official approval of a prospectus or, under the nonthesis program, the selection and approval of a problem for investigation to be presented in the seminar or proseminar.

*The student must apply for admission to candidacy as soon as he has met these preliminary requirements, not later than two weeks (one week in the summer session) following the opening of his next session of residence.* A student not eligible for candidacy, on completion of 12 semester hours, by reason of a scholastic average below 3.0 in all graduate work completed prior to application for candidacy, or because of failure to select an approved thesis topic, will have his qualifications reviewed and may be denied the opportunity to pursue further work, or may be classified as a non-degree student. Application forms for admission to candidacy are obtained at the Graduate College office or from the chairman of the departmental graduate committee.

## EXAMINATIONS

A major examination may, at the discretion of the department, be required. The nature and timing of the examination will

be determined by the department. The results of any such examination must be reported to the Graduate College *within one week* on forms provided by the Graduate College. A candidate who fails the major examination may retake the examination at the discretion of the committee on graduate study in the department concerned.

An *oral thesis examination*, for those submitting a master's thesis, shall be given not later than one week before the degree is to be conferred. The examining committee shall be composed of the director of the thesis as chairman and two or more additional faculty members. Results of the examination will be reported to the Graduate College office on forms furnished by the Graduate College. This report should be filed *within two days* of the time of the examination.

### THESIS

The candidate prepares his thesis under the direction of his thesis director on a subject in the field of his major work. The thesis provides an opportunity for the student to formulate and express the results of his research and study. The thesis requirement may be met by the presentation of the results of a creative activity in literature, music, fine arts, or industrial arts, together with a written essay indicating the purpose, procedure, problems, and bibliography involved in the work. The format which gives directions and style for writing the thesis is obtained in the office of the Graduate College.

*The student and his thesis director are responsible for the maintenance of accepted standards of grammar, sentence structure, punctuation, form, and scholarly style in the thesis.*

A list of competent thesis typists is available in the Graduate College office. It is recommended that the manuscript be put in final typed form by one who has had experience in thesis typing.

The finished typed copies of the thesis must be distributed to the members of the student's examining committee at least one week prior to the date of the oral examination in order that adequate review of the manuscript may be made by the examining committee prior to the examination.

After the thesis is approved by the Graduate College and not later than five days before the degree is conferred, the candidate files two unbound copies of the thesis with the university librarian and one bound copy of the thesis with the office of

the Graduate College. The two copies filed with the university librarian are bound and retained in the university library, and the copy filed with the Graduate College is presented to the school or department in which the work has been done.

If the student desires a bound copy of his thesis, arrangements for this service can be secured through the library.

### TIME LIMIT FOR THE MASTER'S PROGRAM

The maximum time allowed between the date when a student first registers for graduate study and the date when the requirements for the master's degree are completed is six calendar years. Students who do not complete their requirements for the degree within the six-year period may be permitted to continue in graduate study only if exceptional circumstances are associated with the delay in progress. An extension of time is automatically granted to those students whose programs have been interrupted by military service.

## THE DOCTOR OF PHILOSOPHY DEGREE

The doctor's degree is granted on the basis of evidence that the candidate has achieved a high level of scholarship and proficiency in research rather than solely on the basis of successful completion of a prescribed amount of course work. The competence of the student and his ability to work independently and to write creatively are established by qualifying and comprehensive examinations and the quality of a dissertation submitted as an account of his original research.

### RESIDENCE AND CREDIT

A minimum of six semesters of study and research beyond the bachelor's degree is needed to meet the requirements of the doctor's degree. At least two semesters of the doctoral program of study shall be in continuous residence on the Athens campus of Ohio University in an institutional full-time status. One 11-week summer session may be counted for this purpose as one semester. The continuous residence requirement applies to the period of graduate study following the completion of the master's degree or the equivalent of approximately 30 semester hours of graduate study.

## TRANSFER OF CREDIT

The amount of credit accepted by transfer from another university will be determined by the graduate committee of the department concerned and the Dean of the Graduate College.

## PROGRAM OF STUDY

The graduate program for the doctor's degree will usually include, in addition to the major subject, at least two minor subjects of study, one of which may be in the field of the major, with the other in a field distinct from but related to the major. The student will be assigned an adviser by the graduate committee of the major department who will, with an advisory committee appointed by the graduate committee of the department, outline the proposed program of study for the degree. The courses will be indicated on a special form supplied for this purpose and one copy must be filed in the Graduate College office. A minor will normally involve a minimum of 12 semester hours of study.

## TIME LIMIT FOR THE DOCTOR'S PROGRAM

The maximum time allowed between the date when a student holding a bachelor's degree initiates graduate study and the date when the requirements for the doctor's degree are completed is seven calendar years. For a person holding a master's degree the maximum time allowed from the date of initiating work toward a doctorate and the date when the requirements are completed is six calendar years.

Students who do not complete their requirements for the degree within the given period may be permitted to continue in graduate study only if exceptional circumstances are associated with the delay in progress. An extension of time is automatically granted to those students whose programs have been interrupted by military service.

## COMPREHENSIVE EXAMINATION

Toward the end of the student's fourth full semester of graduate study, or when course work is virtually completed, and upon the recommendation of his advisory committee, the student takes his comprehensive examination, which is given for the purpose of establishing his mastery of the fields of specialization or his readiness for advanced research. The results of

the examination must be reported to the Graduate College within *one week* on forms provided by the Graduate College.

The committee for this examination consists of the student's advisory committee and at least two members of the major department appointed by the chairman of the major department. Other members of the faculty are free to participate in the oral phase of this examination.

## SCHOLARLY DISCIPLINE REQUIREMENT

Prior to admission to candidacy the student will be required to demonstrate proficiency in two scholarly disciplines outside of, but related to, his area of concentration, as determined by the Graduate Committee of the department in which he is working. Normally one of these will be a reading knowledge of one foreign language to be designated by the Graduate Committee of the department. They may include (1) a reading knowledge of a second foreign language, (2) a knowledge of the literature of a foreign language (the language may be that with which he satisfies the requirement for his first scholarly discipline, or (3) some relevant disciplines, such as computer science or statistics.

## ADMISSION TO CANDIDACY

Upon successful completion of the comprehensive examinations, fulfillment of the scholarly discipline requirement and official approval of a research prospectus, a student may, by recommendation of his departmental graduate committee, be admitted to candidacy. *Candidacy must be obtained prior to the beginning of the last two semesters of residency for the degree.*

## DISSERTATION

A dissertation, which is the scholarly account of an investigation or research in a new area of knowledge, is submitted by each candidate. *The student expecting to receive the Ph.D. degree must be registered for at least two semester hours of credit in the session in which he receives his degree.* The adviser may recommend that registration be for more than the stipulated two hours.

An *oral examination* on the dissertation shall be given not later than one week before the degree is to be conferred. The examining committee shall be composed of the student's doctoral committee, with the dissertation director as chairman, and a representative of the Graduate Council as appointed by the Dean of the Graduate College. The final arrangements for the

examination shall be completed *through the Graduate College office* at least ten days prior to the examination. Details of the examination, including time and place, will be sent to the examiners and to the student from the Graduate College office.

No later than one week prior to the date of the oral examination at least three copies of the finished manuscript must be distributed to members of the examining committee. The original copy is brought to the Graduate College office for the member of the Graduate Council who will serve on the examining committee.

At least one week before the close of the semester in which the candidate receives his degree all approved copies of the dissertation, together with one copy of an abstract of about 600 words and two copies of a two or three sentence abstract (all signed by the dissertation director) are submitted to the Dean of the Graduate College for final approval.

At this time the original and first carbon copies of the dissertation and the longer copy of the abstract are filed with the University library. A binding fee of \$3.75 per copy and a microfilming fee of \$25.00 are paid to the treasurer of the University.

The original copy of the dissertation will be given to University Microfilms, Inc. for editing and microfilming, and will be made available for use by inter-library exchange. It is then returned to the Edwin Watts Chubb Library at Ohio University. The longer abstract will be submitted to University Microfilms, Inc., Ann Arbor, Michigan, for publication in *Dissertation Abstracts*. The second carbon of the dissertation will be bound as directed and submitted to the student's major department.

## AREAS OF GRADUATE STUDY

### ARTS AND SCIENCES

Qualified students may pursue graduate study leading to the *Master of Arts* degree in one of the following areas of instruction:

Bacteriology, Botany, Chemistry, Economics, English, Geology, Government, History, Human Relations, Linguistics, Mathematics, Modern Languages, Philosophy, Physics, Psychology, Sociology and Anthropology, or Zoology.

The *Master of Science* degree is granted to candidates whose undergraduate preparation provided the Bachelor of Science

degree or its equivalent and whose graduate major is in one of the following areas of instruction:

Bacteriology, Botany, Chemistry, Geology, Mathematics, Physics, Psychology, and Zoology.

The *Doctor of Philosophy* degree is granted in Chemistry, English, Physics, and Psychology.

The Computer Center in the basement of the Business Building houses a digital computer, the IBM/360 model 40, with 128 K core memory. This computing system, with auxiliary equipment, is available for teaching and research.

Radiochemistry and neutron physics laboratories, including a subcritical reactor, are available for training and research. The solid state physics laboratory includes a large magnet, nitrogen liquefier, and liquid helium cryostats. The nuclear radiation laboratory features a high resolution time-of-flight spectrometer. The high energy physics laboratory includes automated scanning and measuring equipment for bubble chamber photographs.

### BUSINESS ADMINISTRATION

Qualified students may pursue graduate study leading to the following degrees:

The *Master of Business Administration* degree provides a broad program of study in each of the functional areas of business. It is not intended to provide extensive specialization in any one field; however, up to 40 per cent of the work in the M.B.A. program may be elected in one of the following fields: Accounting, Economics, Finance, Management, and Marketing-Advertising.

The *Master of Arts* degree with a major in Economics provides work in advanced economics leading to positions in business and government.

The *Master of Science* degree with a major in Accounting provides an opportunity for specialized professional preparation in this area. A student with undergraduate background in business may complete the degree in one year of advanced study.

### EDUCATION

Graduate students directing their efforts toward advanced professional training for administrative, teaching, and student personnel positions in education may receive the *Master of Education* degree or the *Doctor of Philosophy* degree.

The master's degree is granted to those completing graduate programs in: Admin-



istration, School Supervision, Elementary or Secondary School Teaching, Guidance and Counseling in Elementary and Secondary Schools, and Student Personnel Services in Higher Education.

The doctor's degree is granted to those completing programs in: Administration, Supervision, Counselor Education, Guidance and Counseling in Elementary and Secondary Schools, Elementary Education, and Student Personnel Services in Higher Education.

The Center for Educational Research and Service is designed to make available the resources of the College of Education and of the University to educational workers—teachers, administrators, and supervisors. These resources are also available to boards of education and to the public in communities served by Ohio University.

The resources of the Center for Educational Research and Service and the Projects which it conducts offer opportunities for graduate students in the use of these practical materials and in participation in field studies of realistic educational problems.

The resources of the Guidance Training Laboratory provide special guidance services for students enrolled in the College of Education, and others who wish assistance with problems of vocational and educational choice. Students are accepted who volunteer or who are referred by staff. Counseling and testing is provided by graduate students under supervision and by professional staff of the Department of Guidance Counseling and Student Personnel of the College of Education. Referral arrangements are maintained with other counseling services of the University. There is no charge for the usual services of the Laboratory. Students wishing to use the services of the Laboratory should make appointments by reporting to Room 346, McCracken Hall.

The Reading Laboratory—which shares the reception office and the observation room with the Guidance Laboratory—consists of three testing and tutoring offices and a large reading room. Its facilities include various tests and testing equipment, a collection of children's literature, educational materials, and instructional devices. Experiences in the diagnosis and treatment of reading difficulties are offered through the course Education 310: "Reading Laboratory Practicum."

## ENGINEERING

Programs of graduate study leading to the *Master of Science* degree in chemical,

civil, electrical, and mechanical engineering are available.

The *Doctor of Philosophy* degree is granted in electrical engineering.

## FINE ARTS

The degree *Doctor of Philosophy* is granted in Public address, Speech Pathology and Audiology, Radio Television, and Fine Arts.

The Doctoral program in Fine Arts stresses the interrelationship of major art forms through a sequence of comparative studies pointing toward a synthesis of knowledge and understanding in the Fine Arts. Students trained at the level of the master's degree in the studio or in practical aspects of one of the particular arts will utilize this training as a minor area of study in the doctoral program.

The *Master of Fine Arts* degree may be granted to students who major in one of the following areas of study:

## DRAMATIC ART AND SPEECH

The program of dramatic art and speech is centered in the Speech and Theatre Building, equipped with modern facilities for the University Theatre, the University Speech and Hearing Clinic, the radio station—WOUB—AM and FM, television station, and special rooms for the forensics program. Graduate students may participate in production, directing, technical work, costuming, make-up, house-management, or promotion of the presentations of the University Theatre.

Graduate students in speech therapy acquire firsthand experience in working with all types of defective speech in both the university clinic for students and in the children's clinic. Mature students may be given some supervisory responsibility.

An extensive program of first-year debating and varsity intercollegiate debating for both men and women, together with intercollegiate contests in oratory and interpretation, provides ample opportunities for graduate students in public address to gain practical experience in the direction of a forensics program.

## MUSIC

The School of Music offers the degree of *Master of Fine Arts* or *Master of Education*. For the degree of *Master of Fine Arts* the major field may be in Theory and Composition, Music Literature, Music Education, or Applied Music (voice, piano, organ, violin, cello, brass, and woodwind). The *Master of Education* degree may be granted to those majoring in music education.

### PAINTING AND ALLIED ARTS

The graduate program leading to a *Master of Fine Arts* degree with a major in Art Education, Ceramics, Drawing, Jewelry, Painting, Photography, Prints, Sculpture, or Weaving requires the completion of at least 48 semester hours, including credit for research and thesis.

### HOME ECONOMICS

The School of Home Economics offers a broad and extensive program in home economics and related fields leading to the *Master of Science* or *Master of Education* degrees. Major work at the graduate level is offered in four fields—Home Economics Education, Foods and Nutrition, Textiles and Clothing, Child Development and Family Life including nursery education.

### INDUSTRIAL ARTS

The basic objective of this department is to serve teachers who desire to upgrade their work by more intensive study in the field of industrial arts. The graduate courses have been developed to give the latitude necessary to meet the variations in undergraduate preparation and in the student's professional objectives. Students in this area become candidates for the *Master of Education* degree.

### JOURNALISM

The *Master of Science* degree is granted in these areas: Advertising-Management, Magazine Journalism, News Writing and Editing, Public Relations, and Radio-Television news.

The Ohio University School of Journalism is one of a select group of schools or departments of journalism that have been accredited by the American Council on Education for Journalism. The School of Journalism has its own complete laboratory facilities and also has access to the offices and equipment of the independently-owned daily, *The Athens Messenger*. United Press wire service, an AM and FM radio station, a television studio, type laboratory, dark rooms, an offset press, and an engraving plant are a part of the university equipment available.

### PHYSICAL EDUCATION AND ATHLETICS

The graduate student in physical education has optional plans of study leading to the master's degree. Plan A includes 27 semester hours of course work plus a 4 semester hour thesis. Plan B requires 32

semester hours of course work, including a 3 hour research seminar.

#### Plan A

A student may work toward either the *Master of Science* or the *Master of Education* degree, depending on his background of preparation and program of graduate study.

Students who elect graduate study in physical education and the related subjects of health education and recreation may combine these interests into a major of 12 to 16 course hours and a thesis. One or two other areas will be associated with this major to complete 27 course hours plus a 4 hour thesis.

Associated areas or minors may be selected from related graduate course offerings in the University with the understanding that a minimum of 6 or more hours of prerequisite study are usually required before graduate study is permitted. The following minors are commonly selected: educational administration, guidance and counseling, history, human relations, social science, biological science, psychology, or industrial arts. The student, however, is in no way limited to these areas. The student electing to follow Plan A leading to the M.S. or M.Ed. degree will comply with the requirements outlined in the Graduate College Bulletin.

#### Plan B

Under Plan B the student works toward the *Master of Education* degree. This plan is available under the same requirements as Plan A, except for the following provisions:

1. The student must be approved for this program by the committee on graduate study in physical education.
2. The student will complete a minimum of 32 semester hours of credit for the degree. Within this program 18 to 20 course hours are taken in his major field. One or two other areas will be associated with this major to complete the required hours.
3. A seminar research course is required. The student will develop a problem in health education, physical education, recreation, athletics, or a related area. The written report of the problem must conform with the format for research writing as recommended by the Graduate College.
4. The student must pass a written examination based on the courses taken in his major field of study.

# MAJOR FIELDS OF STUDY

## ACCOUNTING

The Master of Science degree with a major in accounting is available on the thesis or the non-thesis plan. For admission to graduate study in accounting a student should have completed 12 semester hours of advanced undergraduate courses in accounting, including cost accounting and taxes. In addition, the following business core curriculum courses should be completed: elementary accounting, business law, economics (6 hours in each); finance, management, marketing, and statistics (3 hours in each). Undergraduate deficiencies may be completed concurrently with early graduate work. The Admission Test for Graduate Study in Business is required before admission or during the first semester.

A student may pursue the M.B.A. degree, taking his elective work in accounting.

For further information write to *Robert E. Neubig, Chairman, Department of Accounting, Ohio University, Athens, Ohio 45701.*

## ART

The Master of Fine Arts degree, requiring completion of at least 48 hours of graduate work, may be obtained in the majority of the fields of art, including Art Education and Photography. A minimum average of 2.5 on all undergraduate work and a bachelor's degree from an accredited institution are requirements for admission to graduate study. The student must also submit a portfolio in order to be considered for admission.

For further information write to *Dr. Frederick D. Leach, Director, School of Painting and Allied Arts, Ohio University, Athens, Ohio 45701.*

## BOTANY

Master of Science programs are offered in the following fields of Botany: Cytology, Ecology, Morphology, Mycology, Paleobotany, Pathology, Phycology, Physiology, and Taxonomy. Only thesis programs are offered.

Twenty-four hours of work in Botany or closely related fields which are approved by the chairman of the department are required to begin graduate work in botany. Courses in morphology, physiology, and taxonomy should be included in the student's preparation. Deficiencies in under-

graduate preparation may be made up during the course of graduate study.

One year of college chemistry is required of all applicants. Applicants with significant deficiencies should take the Graduate Record Examination.

For further information about graduate work in this department, write to *Dr. A. M. Wallace, Chairman, Graduate Committee, Department of Botany, Ohio University, Athens, Ohio 45701.*

## BUSINESS ADMINISTRATION

The MBA program is offered to provide broad training in each of the functional areas of business. Up to 40 per cent of work may be elected in a particular area such as Accounting, Economics, Finance, Management, or Marketing-Advertising. Both thesis and non-thesis programs available.

Thirty hours of undergraduate preparation in business/economics are required before graduate work can begin (Economics and Accounting—6 hours each; Marketing, Management, Finance, Law, Statistics, and elective—3 hours each.) Deficiencies in undergraduate preparation may be made up during the MBA program. Graduate courses may be taken in any area for which undergraduate preparation has been completed, even if deficiencies in other areas remain to be made up.

Applicants should take the Admission Test for Graduate Study in Business before they arrive on campus or during their first semester of residence. A threshold score on the ATGSB may be required as a condition of admittance in certain cases. The Graduate Record Examination may be substituted for the ATGSB under exceptional circumstances.

For further information about graduate work in Business Administration, write to *William A. Day, Assistant Dean, College of Business Administration, Ohio University, Athens, Ohio 45701.*

## CHEMISTRY

Master of Science and Ph.D. programs are offered in the analytical, inorganic, organic, and physical areas. A graduate program in biochemistry will be available beginning in 1966.

To begin a graduate major in chemistry the student should have completed a full year's work in quantitative analysis (8 hours), organic chemistry (10 hours), and

physical chemistry (6 hours). Calculus (8 hours) and physics (8 hours) are also required. Deficiencies in undergraduate preparation may be made up during the first semester of study.

Entrance examinations in inorganic, analytical, organic, and physical chemistry are administered during registration week. The results are employed in planning the student's program of study.

For further information about graduate work in this department, write to *Robert J. Kline, Chairman, Graduate Committee, Department of Chemistry, Ohio University, Athens, Ohio 45701.*

### CLASSICAL LANGUAGES

A minor program in Greek is offered for the M.A. degree, and a minor program in Latin is offered for either the M.A. or the M.Ed. degree.

To begin a graduate minor in Greek, a student must have completed 12 hours of undergraduate work in Greek with an average of 3.00. To begin a graduate minor in Latin, a student must have completed 12 hours of undergraduate work in Latin above two high-school units with an average of 3.00.

For further information about graduate work in this department, write to *Paul R. Murphy, Chairman, Department of Classical Languages, Ohio University, Athens, Ohio 45701.*

### DRAMATIC ART AND SPEECH

M.A. programs are offered in Theatre, Speech and Hearing Therapy, Radio-Television, and Public Address, with thesis and non-thesis programs available at the option of the area.

The Ph.D. is available in Radio-Television, Speech and Hearing, and Public Address.

Admission to the Graduate College in the field of speech at the master's level may be qualified or unqualified. Among the requirements for unqualified admission are 24 semester hours in Speech and a 2.5 average ( $A=4$ ). Qualified admission must be approved by the School of Dramatic Art and Speech, and candidates admitted provisionally must maintain a B average in the graduate course during the first semester. All applicants are required to submit a special set of recommendations to the School of Dramatic Art and Speech.

For further information about graduate work in this department, write to *Dr. Paul D. Brandes, Chairman, Graduate Committee, Department of Speech, Ohio University, Athens, Ohio 45701.*

### ECONOMICS

The Master of Arts degree is offered in Economics. This program requires the writing of a thesis.

At least 30 semester hours in business administration and/or related social sciences, including Principles of Economics, Statistics, and Money and Banking are required to begin graduate work in Economics. An accumulative undergraduate average of at least 2.5 ( $A=4$ ) is normally required. Scores on the Graduate Record Examination or the Admission Test for Graduate Study in Business should be submitted to the Graduate College.

For further information write to *Chairman, Department of Economics, Ohio University, Athens, Ohio 45701.*

### EDUCATION

Programs leading to the M.Ed. degree are offered in the following areas: Elementary or Secondary School Administration, Secondary Education, and Reading Specialist. The M.Ed. and the Ph.D. are offered in Business Administration in Education, Curriculum and Supervision, Elementary Education, Guidance and Counseling in Elementary or Secondary Education, and Student Personnel Services in Higher Education. The Ph.D. is offered in Counselor Education in Higher Education and in Educational Administration. Opportunities of specialization are provided to meet individual needs and to prepare for specific responsibilities in schools and colleges. The cooperative arrangements with the various colleges of Ohio University make it possible for the student to pursue a wide range of interests and to achieve a high degree of competence for a specific type of position.

A minimum scholastic average of 2.5 on all undergraduate work is normally required for admission to graduate study in Education. Students who are applying for work beyond the master's degree are expected to have at least a 3.0 average on their graduate work to date.

For further information write to *Graduate Committee in Education, Ohio University, Athens, Ohio 45701.*

### CHEMICAL ENGINEERING

Programs leading to the Master of Science degree are offered. The basic requirement for admission is a grade point average of 2.5 in an accredited B.S. program in chemical engineering. A student who has completed undergraduate requirements at an unaccredited institution,

has received an undergraduate degree in an area other than chemical engineering, or whose scholastic record is deficient may be admitted on special status. Scores on the Graduate Record Examination should be submitted to give additional evidence of aptitude for graduate work. The Graduate program will be modified to meet the student's special needs.

Students working toward the M.S. degree are expected to take at least 15 hours in chemical engineering courses, including applied calculations, advanced thermodynamics, and transport phenomena.

For further information write to *Chairman, Department of Chemical Engineering, Ohio University, Athens, Ohio 45701.*

### CIVIL ENGINEERING

Master of Science programs are offered with major study in solid mechanics, fluid mechanics, and soils engineering, including soil mechanics, sanitary engineering, structures, and transportation.

To begin graduate study a student should have graduated from an E.C.P.D.-accredited curriculum in civil engineering or its equivalent, although graduates of other curricula will be considered. Deficiencies may be removed during the period of graduate study but credit thus earned will not count toward the degree.

Applicants who do not satisfy the normal requirements for admission as stated above must present satisfactory scores on the Graduate Record Examination.

For further information write to *Carl L. Shermer, Chairman, Department of Civil Engineering, Ohio University, Athens, Ohio 45701.*

### ELECTRICAL ENGINEERING

M.S. and Ph.D. programs are offered in Electrical Engineering. The principal areas of interest include Computers; Control; Communication and Information; Energy Conversion; Electromagnetic Phenomena in Vacuo, in Solid Media, in Fluids and at Interfaces; Generation and Control of Electromagnetic Energy; Solid State Devices; Transducer Theory and Development.

To begin a graduate program in Electrical Engineering a student must have a B.S. degree in Electrical Engineering or an equivalent degree in a related physical science or engineering. Deficiencies in undergraduate preparation may be made up during the first year of study.

Applicants with degrees from nonaccredited schools should take the Graduate Record Examination, including the advanced test.

For further information about graduate work in this department, write to *G. E. Smith, Chairman, Graduate Committee, Department of Electrical Engineering, Ohio University, Athens, Ohio 45701.*

### MECHANICAL ENGINEERING

The Master of Science degree is offered in the fields of mechanical design, thermodynamics, and industrial engineering. Courses for the minor are usually in other areas such as mathematics, physics, or an engineering area other than the major area.

An undergraduate average of at least 2.5, and preferably a 3.0 in the proposed major area, is required for admission. A student holding a bachelor's degree from an unaccredited institution, or whose undergraduate preparation is deficient, must submit a satisfactory score on the Graduate Record Examination or other college ability test and make up deficiencies as prescribed by the department. Letters of recommendation may be required.

A thesis is required in addition to course work, and is generally an experimental investigation, an analytical investigation, or a design.

For further information write to *O. E. Adams, Chairman, Graduate Committee, Department of Mechanical Engineering, Ohio University, Athens, Ohio 45701.*

### ENGLISH LANGUAGE AND LITERATURE

M.A. and Ph.D. programs are offered in all areas of English and American literature and in the English language. Thesis and non-thesis master's programs are offered.

To begin a graduate major in English, a student must have completed 24 hours of undergraduate work in English. Deficiencies in undergraduate preparation may be made up during the first semester of study.

Applicants should take the Graduate Record Examination, including the advanced test, before they arrive on campus or during their first semester of residence. Students completing their M.A. at Ohio University will apply to the Graduate Committee of the English Department for admission to the Ph.D. program. Evidence of a reading knowledge of one foreign language is required for the master's degree.

For further information about graduate work in this department, write to *Professor Roma A. King, Jr., Chairman, Graduate Committee, Department of English, Ohio University, Athens, Ohio 45701.*

## FINE ARTS

The major emphasis of the Ph.D. in Fine Arts program is placed upon the interrelationship of major art forms. Major course work is taken in the history and theory of the arts of Architecture, Music, Painting and Sculpture, Rhetoric, and Theatre.

Students entering this program should have completed a master's degree with major emphasis on the practical application of the fine arts. The undergraduate or master's degree program should include 18 hours in the history of the fine arts.

Requirements for admission and for the degree include evidence of creative activity in the form of portfolios, slides, tapes, designs etc. The final research paper for the degree is a dissertation which is comparative in nature.

For further information about graduate work in this department, write to *Anthony G. Trisolini, Chairman, Graduate Committee of Fine Arts, Ohio University, Athens, Ohio 45701.*

## GEOLOGY

The Master of Science degree is offered in the following fields of Geology: geomorphology, glaciology, hydrology, paleontology, stratigraphy, economic geology, mineralogy, petrology, sedimentation and structural geology.

Graduate students who wish to major in geology must have an undergraduate average of at least 2.5 and must have completed three hours in each of the following courses: historical geology, mineralogy, petrology, and structural geology, and in addition must have earned sufficient hours of the following to complete a minimum of 24 hours in geology: economic geology, glacial geology, geomorphology, paleontology, sedimentation, stratigraphy, and field geology. At least six hours each of chemistry, physics, and mathematics through trigonometry are required. Students unable to meet the above requirements will be asked to make up deficiencies without graduate credit.

For the master's degree it is recommended, where appropriate, that the graduate student complete differential calculus and quantitative chemistry or courses in advanced zoology. Credit in a recognized field camp is required. A thesis is required in one of the fields of specialization.

For further information about graduate work in the department, write to *Prof. Willard B. Phelps, Chairman, Graduate Committee, Department of Geography and Geology, Ohio University, Athens, Ohio 45701.*

## GOVERNMENT

The Master of Arts degree is offered in all areas of political science. A comprehensive examination and a thesis are required. To begin a graduate major in government, a student must have 18 hours of undergraduate work and 3.0 in undergraduate courses in government, or special permission.

For further information about graduate work in this department, write to *Dr. Richard Bald, Chairman, Graduate Committee, Department of Government, Ohio University, Athens, Ohio 45701.*

## HISTORY

A Master of Arts program is offered with work in the history of the United States, Europe, Latin America, Africa, Middle East and Southeast Asia. Thesis and non-thesis master's programs are available.

A minimum of 24 hours of undergraduate work in history, including the basic survey courses in European and American history or their equivalent, and at least three courses at the junior-senior level are required. Deficiencies in undergraduate preparation may be made up during the first semester of study.

No foreign language is required for admission to the program, but students in the thesis program must demonstrate a reading proficiency in one foreign language prior to approval of their thesis proposal and admission to candidacy.

For further information about graduate work in history, write to *Robert L. Daniel, Chairman, Graduate Committee, Department of History, Ohio University, Athens, Ohio 45701.*

## HOME ECONOMICS

The School of Home Economics offers graduate programs leading to either the Master of Science or the Master of Education degree in all areas of Home Economics. In addition an Interdivisional program is offered for Home Economics or Family Life teachers in junior-senior high schools, or junior colleges.

Thesis and non-thesis programs are available.

To begin a graduate major in home economics one should have a minimum of 18 semester hours of undergraduate preparation in the field of home economics in which he wishes to specialize and/or in approved related fields. For a student majoring in Home Economics Education, a minimum of 24 semester hours of undergraduate credit distributed among at least

three areas of home economics is required. Deficiencies in undergraduate preparation may be made up during the first semester of study.

A student holding a bachelor's degree from an accredited college or university who has attained an undergraduate scholastic point-hour ratio of 2.5 ( $A=4.0$ ) or better on hours attempted, and preferably a 3.0 in the area of the proposed major, will be considered for admission with regular status in the Graduate College. Further supporting evidence of the student's ability in the form of the Graduate Record Examination or other college ability tests and letters of recommendation may also be requested.

A student holding a bachelor's degree from an unaccredited institution or a person whose undergraduate preparation is deficient will be required to supplement his undergraduate record with a satisfactory score on an acceptable standard college ability test.

For further information about graduate work in Home Economics, write to *Dr. Beulah Sellers, Chairman, Graduate Committee, School of Home Economics, Ohio University, Athens, Ohio 45701.*

## HUMAN RELATIONS

A Master of Arts program is offered in Human Relations. A student may concentrate in the area of College Student Personnel Work, Industrial Human Relations or Community Services.

The undergraduate preparation of the student should consist of not fewer than 18 hours in social sciences (sociology, psychology, economics, history, business administration, government.) A minimum undergraduate cumulative average of 2.5 is required and a 3.0 average is preferred.

The M.A. program is interdepartmental in nature and a minor field of study is not required. Twenty-eight course credits, four hours of thesis credit, and a major examination are necessary to complete the degree.

For further information about graduate work in this department, write to *Dr. Bernard R. Black, Chairman, Graduate Committee, Department of Human Relations, Ohio University, Athens, Ohio 45701.*

## INDUSTRIAL ARTS

A Master of Education degree is offered in Industrial Arts. Thesis or non-thesis programs may be arranged. Courses related to the major may be added from other areas of the University, as approved by

the major advisor and the Department Graduate Committee.

An overall grade point average of at least 2.5 is required for admission, and the undergraduate program should include a minimum of 27 semester hours of undergraduate work in industrial arts, including at least one course in each of the following areas of work, as required for teacher certification in Ohio: Graphic Arts, Woodworking, Metalworking, Applied Electricity, Crafts and/or Ceramics, and Drawing and Design.

The application of a person not meeting the above requirements will be considered on an individual basis by the Graduate Committee in Industrial Arts. Normally, persons who have not met teacher certification requirements for Ohio will be required to take additional undergraduate courses in addition to their regular graduate requirements.

For further information about graduate work in this department, write to *Dr. Robert H. Hawlk, Chairman, Graduate Committee, Department of Industrial Arts, Ohio University, Athens, Ohio 45701.*

## JOURNALISM

Graduate work leading to the Master of Science degree is offered in all areas of journalism and mass communications. Special sequences included are News Writing and Editing, Advertising-Management, Magazine Journalism, Public Relations, and Radio-Television News. Graduate courses and seminars are offered in such areas as Theory of Mass Communications, Research Methods, Literature of Journalism, and Government and Mass Communications.

To begin a graduate major, a student should have a minimum of 12 hours of basic journalism courses and 6 additional hours of approved work in journalism or related fields. Students without undergraduate courses in journalism will be required to take some journalism courses on the undergraduate level. These may be taken concurrently with the graduate program.

To begin a graduate minor in journalism, courses prescribed as prerequisites, or approved equivalents are required. These prerequisites usually total 6 to 12 hours. Special courses are offered for teachers of journalism who may be attending the summer workshops.

For further information about graduate work in journalism, write to *Dr. L. J. Hortin, Director, School of Journalism, Ohio University, Athens, Ohio 45701.*

## LINGUISTICS

Master of Arts programs in Linguistics are offered in the following areas: general linguistics, applied linguistics, and teaching English as a foreign language. A thesis is optional for the Master of Arts degree. The Doctor of Philosophy degree is offered in Linguistics.

To begin a graduate major in Linguistics a student should have completed 24 hours of work in modern, foreign or classical language, or a field closely allied with Linguistics such as mathematics, psychology, sociology, or speech.

Degree candidates are required to demonstrate proficiency in one foreign language for the master's degree and in two for the Ph.D. degree. French or German are suggested for the master's degree.

For further information write to *Dr. Orrin Frink, Chairman, Committee on Linguistics, Ohio University, Athens, Ohio 45701.*

## MATHEMATICS

The Master of Science degree in mathematics is offered. At least 27 hours of credit (plus the writing of a thesis) is required. A non-thesis program is also available.

To begin a graduate major in mathematics, a student must have completed 21 hours of undergraduate courses in mathematics. Deficiencies in undergraduate preparation may be made up during the first semester of study.

Preference for admission to graduate study will be given to those applicants who have attained a grade point ratio of 3.0 (B) or better in their undergraduate courses in mathematics. Further supporting evidence of the student's ability in the form of the Graduate Record Examination may also be requested. Completion of several required courses in analysis and algebra, as part of the minimum total of 27 hours of course work, is required of all master's degree candidates.

For further information about graduate work in this department, write to *Dr. R. K. Butner, Chairman, Graduate Committee, Department of Mathematics, Ohio University, Athens, Ohio 45701.*

## MODERN LANGUAGES

Master of Arts programs are offered in French, German and Spanish languages and literatures. A thesis is required for each of the areas.

To begin a graduate major in any foreign language, the student must have completed

24 hours or the equivalent of undergraduate work beyond the intermediate course in that language. Specific course requirements are a Survey of Literature (one-year course), Advanced Grammar and Composition, Conversation, and a minimum of nine hours in advanced-level literature courses. Deficiencies in undergraduate preparation must be made up during the first semester of study.

All graduate majors in language are normally required to complete two semesters of philology and linguistics. Students of French or Spanish should have a background of training in Latin.

For further information about graduate work in this department, write to *Dr. Philip Flum, Chairman of the Graduate Committee, Department of Modern Languages, Ohio University, Athens, Ohio 45701.*

## MUSIC

Programs leading to the Master of Fine Arts degree are offered in applied music, music education, theory and composition, and music history and literature. The Master of Education degree is offered in music education. A thesis or a recital in lieu of a written thesis is required in all programs.

To begin a graduate major in music a student is required to have completed successfully a four-year undergraduate curriculum in music in an accredited institution offering an undergraduate degree equivalent in hours and content to the requirements of the National Association of Schools of Music. Deficiencies in undergraduate preparation may be made up during the first year of study.

All beginning graduate students are required to take a proficiency test in theory and history and literature of music given during registration week. The results of this test will be used to designate the program of study. All applied music majors will have to demonstrate proficiency in their particular fields.

For further information about graduate work in the music department, write to *Sherwood E. Hall, Chairman, Graduate Committee, Department of Music, Ohio University, Athens, Ohio 45701.*

## PHILOSOPHY

A Master of Arts program is offered permitting specialization but requiring work in the history of philosophy, theory of value, and logic or epistemology. A thesis is required.



To begin a graduate major in philosophy, a student must have completed 12 hours, including courses in ethics and logic and a one year course in the history of philosophy. (Deficiencies in undergraduate preparation may be made up during the first year of graduate study.) A student must also have received a minimum average of 3.0 (B) in undergraduate courses in philosophy and a 2.5 average in other courses.

For further information about graduate work in this department, write to *Prof. Idus Murphree, Chairman Graduate Committee, Department of Philosophy, Ohio University, Athens, Ohio 45701.*

### PHOTOGRAPHY

The Master of Fine Arts degree with a major in photography is offered in both still and motion picture work. To meet acceptance requirements, the student must have the BFA, or a bachelor's degree in some discipline, including 12 hours in photography and 6 hours in art and design. If deficiencies exist in these areas they may be made up during the student's first semester of residency. Each applicant must submit a portfolio of his work for evaluation.

For further information about graduate work in this department, write to *Elizabeth Truxell, Chairman, Graduate Committee, Department of Photography, Ohio University, Athens, Ohio 45701.*

### PHYSICAL EDUCATION

Programs leading to the Master of Science or the Master of Education degree are offered in Physical Education. The thesis plan (Plan A) leads to the M.S. degree, and the non-thesis plan (Plan B) leads to the M.Ed. degree.

To begin a graduate major in Physical Education, a student must have completed 24 hours of undergraduate work in Physical Education. (Deficiencies in undergraduate preparation may be made up under specified conditions established by the Graduate Committee in Physical Education.) A 2.5 accumulative undergraduate average is required for admission.

For further information write to *Dr. James G. Mason, Chairman, Graduate Committee, Division of Physical Education and Intercollegiate Athletics, Ohio University, Athens, Ohio 45701.*

### PHYSICS

Master of Science and Ph.D. programs are offered in both experimental and theoretical research in: chemical physics, cosmic rays, cryogenics, high energy particles, nuclear physics, solid state physics, spin resonance, statistical physics, ultrasonics, and x-rays. Work is supported by AEC, AFOSR, NASA, NDEA, NSF, ONR, and Ohio University.

A student must present evidence of successful undergraduate work in mathematics, mechanics, electricity and magnetism, thermodynamics, optics, atomic and nuclear physics, and quantum mechanics at the level of the "R-program" recommended by the Commission on College Physics. A student who is well-recommended but deficient in undergraduate preparation may take senior level courses in his first year of graduate study.

Applicants should take the Graduate Record Examination, including the Advanced Test, before they arrive on campus or during their first semester of residence. Qualified students are encouraged to omit the M.S. degree and proceed directly to the Ph.D. A qualifying examination and a thesis are required for the M.S. degree. No fixed number of formal courses is required for the Ph.D. degree; the student must pass the comprehensive examination, demonstrate a reading knowledge of the foreign languages required by his advisory committee, and present a satisfactory research dissertation.

For further information about graduate study and research in physics, write to *C. A. Randall, Chairman, Department of Physics, Ohio University, Athens, Ohio 45701.*

### PSYCHOLOGY

The Master of Science (or Master of Arts) is offered in any of the branches of psychology, but particularly in general, experimental, clinical, counseling, school, and industrial. A research thesis is required. Ph.D. programs are offered in general-experimental and clinical-counseling. A research dissertation is required.

To begin a graduate program a student must have completed 18 credits of undergraduate psychology, including statistics, experimental psychology, and theory of testing. Deficiencies of undergraduate preparation may be made up in the first semester. Students are favored for acceptance who have stronger preparation in mathematics and the sciences.

Applicants must submit scores on the GRE, including the Advanced Test in psy-

chology, and three letters of recommendation from psychologists. They must have an overall grade point average of 3.0 ( $A=4.0$ ), and a psychology average of 3.3. For admission to the doctoral program they must hold a master's degree in psychology, with a minimum grade point average of 3.5. For the doctor's degree, students must pass a statistical proficiency test and a test of reading knowledge of one foreign language. A research dissertation is required, and a year's internship at an APA-approved facility is also required for the clinical or counseling Ph.D. Comprehensive examinations are given at both master's and doctor's level. The department is scientifically oriented, and a core of courses in experimental psychology, statistics, and systems of psychology is required of all students.

For further information about graduate work in this department, write to *William U. Snyder, Ph.D., Chairman, Graduate Committee, Department of Psychology, Ohio University, Athens, Ohio 45701.*

#### SOCIOLOGY AND ANTHROPOLOGY

A program leading to the Master of Arts degree is offered in sociology, with a possible minor in social anthropology. Areas of special interest include: comparative community studies, deviant behavior (including crime and delinquency), social welfare, African studies, and the social psychology of social change and mass communications.

To begin a graduate major in sociology, a student must have completed a minimum of 10 credit hours in sociology and 12 hours in other behavioral sciences, including a course in statistics or social research methods. Deficiencies in undergraduate preparation may be made up during the first semester of graduate study. At least a 3.0

average in the student's undergraduate major field is expected.

A pre-admission interview is desirable if it can be arranged; a letter-form statement of interests and plans may serve the same purpose if supplemented by appropriate letters of recommendation. Course requirements for the degree include: sociological theory, research methods, individual research or seminar, and a thesis representing 4 credit hours of work. Part-time field internships may be arranged for research or training purposes in some instances.

For further information about graduate work in sociology, write to *Dr. William H. Harlan, Chairman, Graduate Committee, Department of Sociology and Anthropology, Ohio University, Athens, Ohio 45701.*

#### ZOOLOGY

A Master of Science degree can be obtained in macro- and microanatomy, embryology, genetics, ecology, endocrinology, protozoology, microbiology, ornithology, parasitology, physiology, invertebrate, and vertebrate zoology.

All applicants for graduate work are expected to have had undergraduate training in anatomy, genetics, physiology, mathematics, and chemistry (including organic). Deficiencies in these areas can be made up at Ohio University but usually without graduate credit. A grade of B must be obtained in these courses.

All graduate majors are expected to do research and to complete a creditable thesis. For certain areas, additional undergraduate courses may be required, (e.g. calculus, statistics).

For further information about graduate work in the department, write to *Dr. John T. McQuate, Chairman, Graduate Committee, Department of Zoology, Ohio University.*







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